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THE SIGNIFICANCE OF DIET IN TREATMENT

CHAIRMAN'S ADDRESS *

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CHICAGO

Although the vitamins properly belong in the domain of the pharmacologist, and dietetic procedure constitutes a time honored method of treatment, the programs of former meetings of this section reveal that diet and nutrition never have been chosen as topics for a chairman's address or as material for a symposium. The officers of the section decided to remedy this omission and on this occasion to devote to these subjects the attention they so fully merit. We are fortunate in having secured for the purpose the cooperation of scientists and physicians who are preeminently qualified to speak on these matters.

At the Celebration of Medical Progress, by the University of Pennsylvania last year in October, Sir Walter Fletcher,[1] secretary of the Medical Research Council of Great Britain, had this to say regarding the significance of the new knowledge of nutrition:

> We are now only in the first dawn of our knowledge of the laws of nutrition, and of the ways in which the state of the body is affected by changes, often almost incredibly minute, in the exact quality of the food supplied to it. Even the successes already won in this field in the prevention of scurvy, of beriberi, of rickets and of deficiencies in teeth only show us dimly the immense possibilities that lie before us here of gaining new powers of controlling health and of evading disease. . . . Yet so rapid has been the advance of knowledge, as compared with the motility of human institutions that even now, in Great Britain at least, the medical student receives at no point in his course of study any well based and organized instruction in the field of nutrition. . . . He has to depend at present on little that deserves any better description than that of occasional gossip, while the resulting loss to the community at large is immeasurable.

The lack of authoritative information is not confined to Great Britain. The development of the knowledge of the vitamins and of other essentials of adequate nutrition is too new to be incorporated as yet into the crowded curriculum of the schools. The education of physicians in nutrition is thus scarcely better than that of laymen. It comes largely from such interested sources as the circulars of commercial houses and the propaganda of purveyors of food. Worse than this, the advertising and propaganda have become so ubiquitous and at times have been so glaringly unscrupulous as to arouse critical resentment in the conservatively minded and to make physicians unreceptive even of authoritative information. Wherever we turn, our retinas are scorched by the vitamin claims of some bread, milk or "sunkissed" orange. Gigantic signboards proclaim the therapeutic advantage of this or that. The air is filled with radio messages in song or verse, extolling the special health giving virtues of one food or another, ad nauseam. It is a constant annoyance, further intensified by the arrant nonsense proclaimed by an army of uneducated quacks. As Fishbein has stated, the influence of the fashion dictators, once so powerful, fades into insignificance when compared to the self appointed dictators who tell us what to eat.

As a result of all this, the profession is acquiring an antipathy to the subject of diet therapy, and many physicians, even some who know better, have been goaded into the display of actual hostility. The idea that ordinary, everyday folks are in any danger of vitamin or other deficiency is ridiculed; the increasingly probable condition of mild or incipient avitaminosis is rejected before the evidence is examined; the conclusions of the serious students of nutrition are ignored, and dietitians are denounced because of their efforts to put these principles into practice. I am convinced that physicians are more guilty than dietitians for the whole-wheat craze and, as a class, are less likely than dietitians to be aware that the vitamins and minerals in the bran and germ of the wheat are obtainable in more digestible form and in larger amounts from other foods.

Whatever our opinion as to the adequacy of general American dietaries, there can be no doubt of the importance of strict attention to nutritional principles when we are confronted with conditions that require dietary restriction. The prevailing carelessness in these matters, exhibited by many physicians, makes it fortunate that most patients, when they come to the hospital, have enough vitamins stored in their bodies to tide them over a few weeks of semistarvation. Thus, acute diseases can be treated successfully with little harm from neglected dietary considerations. The same cannot be said of chronic illness. How fortunate it is for the patient with ulcer that milk is so nearly a perfect food, biologically. The law of minimum, which Mendel[2] defines as the principle that growth and maintenance will be normal only when all essentials of the intake are adequately available, would certainly be violated otherwise. Wilhelm Stepp,[3] a pioneer in the science of vitamins, recently spoke of the inadequacy of the former regimens of porridge and broths that were given for ulcer, and one wonders whether the milk

* From the Department of Medicine, University of Chicago.

* Read before the Section on Pharmacology and Therapeutics at the Eighty-Second Annual Session of the American Medical Association, Philadelphia, June 11, 1931.

1. Fletcher, Walter: University Ideals and the Future of Medicine, J. A. M. A. **95**:1389-1393 (Nov. 8) 1930.

2. Mendel, L. B.: Address before Joint Session of White House Conference on Child Health and Protection, Official Proceedings of the Section on Medical Service, White House Conference on Child Health and Protection Supplement to United States Daily (section 2) **6**:85-86, 1931.

3. Stepp, Wilhelm: Ueber die Unentbehrlichkeit der Vitamine für das Leben, Wien. klin. Wchnschr. **43**:65-69 (Jan. 16) 1930.

and cream mixtures employed today contain a sufficiency of vitamin C. They are obviously lacking in iron. Where healing of wounds is sought, the matter of the food is unquestionably important and, in this respect, ulcers of the stomach or duodenum are surely not unlike other wounds. Stepp makes it a practice to include fruit juices in his regimen for ulcer, neutralizing these if desirable to avoid acidity. The same comments apply to the current treatment of functional and organic diseases of the colon.

Several years ago, Epstein [4] showed that the rigid restriction of protein then practiced in the treatment of nephritis intensified nephritic edema. Meat, eggs, milk and cheese were ruthlessly interdicted, and one may well ask whether the lives of the patients were not actually shortened thereby.

I shudder to recall the dietary crimes that were committed a decade ago by those of us who were treating diabetes with the starvation methods then prevalent. Green vegetables were thrice cooked and so were deprived of their vitamin and mineral content, and the terrific deprivation of calories, together with a low intake of protein, meant constant wastage of nitrogen. The occurrence of nutritional edema was actually considered a beneficent complication, since it often masked the loss of body weight.

The discovery of insulin has fortunately obliterated that awful picture. Children with diabetes since the introduction of insulin have compared advantageously with those who do not have diabetes. Their teeth are practically free from caries; their bodies are strong and their minds are alert. It is not unlikely that the detailed attention given to their diets is in part responsible. Boyd and his associates [5] commented on the absence of dental caries in the diabetic children of their clinic and were led by this observation to try diets similarly planned for normal children. The calories for the group with diabetes were supplied largely by fat and for the normal group by carbohydrate, but the essential constituents were the same, namely, a liberal quantity of milk, eggs, fruit and green vegetables, and the results were the same—dental caries was arrested in all cases. The recent White House Conference [6] has given official recognition to the importance of these particular foods for satisfactory nutrition. It is inexcusable today to neglect them when treating diabetes. I am convinced that many cases of dissatisfaction with treatment are accounted for by the partial starvation which results from incompletely balanced diets.

It should be borne in mind that the principles of satisfactory nutrition can be satisfied in a variety of ways and that adequacy does not demand rigidity. Thus, for therapeutic purposes, it is possible to distort the relative proportions of the major food factors in an extreme manner. This has been done for treatment of epilepsy with considerable benefit; the diet is one in which the carbohydrate is replaced by fat to such an extent that a state of ketosis is induced. Vitamin B and calcium are lacking but, if they are provided separately in some concentrated form, nutritional injury does not result. The amount of vitamin C that is essential is supplied by 100 Gm. of orange juice or 200 Gm. of tomato juice. Juvenile patients have been held to this regimen for periods of years, with epileptic attacks controlled and growth and vigor undisturbed.

Many popular reduction diets are notoriously inadequate. Some of them are decidedly injurious, opening the door to neuroses of one kind or another, tuberculosis, other infections, anemia and general ill health.

I regard it as extremely unfortunate that the average physician devotes so little time to the study of dietetics. Obese patients would consult their physicians more regularly and be less inclined to practice reducing without medical supervision if they were given more specific directions. But the usual result of a consultation for control of weight is discouraging. As a rule, it consists of certain admonitions, in very general terms, and a list of foods. The result is total failure to accomplish anything. A reduction diet requires the same attention to quantitative consideration as a diet for diabetes. The output of energy must be calculated as closely as possible and the intake made to provide something less than this. Reduction at a rate faster than 2 pounds (0.9 Kg.) a week is often disadvantageous. If the weight loss is too rapid, the patient loses strength, his skin does not have time to contract, and the haggard appearance which develops so frightens his friends and family that the program is interrupted. More gradual reduction avoids this and has the additional advantage that new food habits are formed and the lower body weight can then be maintained without conscious effort. The diet, however, must be carefully planned as for a person with diabetes, the actual calories rigidly controlled, and strict attention paid to the vitamin and mineral carriers and the protein.

The general practitioner is rarely prepared to handle these cases correctly, but the patient is equally to blame. He, too, looks on reducing as a trifling matter and often refuses to devote the attention necessary to accomplish it effectively and with safety.

The importance of diet in the management of pregnancy, anemia, febrile diseases, tuberculosis, arthritis and the degenerative disorders is no less than in the conditions already referred to. In many diseases the possibilities of therapeutic benefit from supplying nutritional elements in amounts greater than those required for maintenance in health is today receiving augmented attention.

In closing, I plead for the thoughtful attention of the members of the profession to this important field of therapeutics, for greater intellectual application on the part of the practitioner to the quantitative features of dietetics, especially in diabetes and obesity, and for a greater amount of instruction in nutrition by the medical schools.

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4. Epstein, A. A.: Further Observations on the Nature and Treatment of Chronic Nephroses, Am. J. M. Sc. **163**: 167-186 (Feb.) 1922.
5. Boyd, J. D.; Drain, C. L., and Nelson, Martha V.: Dietary Control of Dental Caries, Am. J. Dis. Child. **38**: 721-725 (Oct.) 1929.
6. White House Conference, 1930: Addresses and Abstracts of Committee Reports, New York, Century Company, p. 65.

Enzymes in Each Living Cell.—Enzymes play an all-important rôle in nutrition. Each living cell is provided with enzymes—many in fact—and with the aid of these its various activities are unfolded. A reaction which we regard as a single intracellular process often represents several separate splittings or rearrangement of molecules, in each step of which a special enzyme is the controlling factor; for instance, the removal of the amino group from an amino-acid (deamination) is accomplished by a certain enzyme, while the conversion of the remaining group into glucose requires another. If this glucose is then oxidized or is converted into glycogen or fat, still other enzymes are concerned. These enzymes do not appear to differ, except in their specific affinities, from those encountered in the gastro-intestinal tract. Enzymes have been defined as "definite material catalyzers of organic nature with specific powers of reaction, formed indeed by living cells, but independent of the presence of the latter in their operation."—McLester, J. S.: Nutrition and Diet in Health and Disease, Philadelphia, W. B. Saunders Company, 1931.

DERMATITIS MEDICAMENTOSA DUE TO EPHEDRINE *

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Our purpose in this paper is twofold: first, to call attention to some of the cutaneous reactions produced by one of the newer drugs, namely, ephedrine, and, secondly, to present some experiments dealing with attempted passive transfer of sensitivity to this drug.

The first objective is prompted by the extensive use of ephedrine both locally and internally since its introduction into medical therapy. The second objective is prompted by the fact that there is comparative ignorance of the mechanism of the production of the various drug eruptions. True, the term idiosyncrasy is applied when such a phenomenon occurs, but the exact status of dermatitis medicamentosa in the allergic field is not at all well defined.

REPORT OF CASES

CASE 1.—M. H. F., a man, aged 37, seen July 11, 1930, at the Good Hope Clinic, complained of a generalized skin eruption of four days' duration. Four days before, the patient consulted a physician for an "acute coryza" and was given a nasal spray containing ephedrine; ephedrine sulphate was also prescribed internally in three-eighths grain (24 mg.) doses three times a day. He used the nasal spray a great deal and took three of the capsules internally the day previous to the onset of the eruption and for three days following the eruption. Immediately following the use of the nasal spray he noted an irritation about the nose and upper lip and on the following day noted an erythematous itching eruption, which first appeared on the forearms and during the course of the next twenty-four hours became generalized. The eruption was marked by a burning and an itching which were so severe that they interfered with the patient's sleep. In addition, he felt toxic.

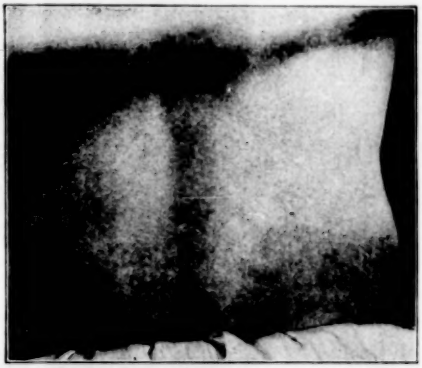

Fig. 1 (case 1).—Erythematous and morbilliform eruption due to ephedrine.

Subsequent questioning revealed that the patient had had a similar but less severe attack about one year before. At this time he was in Boise, Idaho, and following the use of an ephedrine spray for an "acute coryza" he developed a similar but less severe attack, which was followed by desquamation and final clearing in about one month's time. During each attack no other medication had been used.

The patient was well developed, with a marked erythematous macular scarlatiniform eruption, which was generalized. The eruption was most marked on the arms and forearms and inner aspects of the thighs. There was marked edema with pitting on both lower legs below the site of the garters, and in this location, in addition to the erythematous rash, a marked purpura was present. Beneath the nose and on the upper lip, both of which were erythematous and swollen, were numerous yellowish-brown crusts. The patient appeared toxic and had a pulse of 102 and temperature of 99.6 F. Examination of the blood revealed a hemoglobin of 79 per cent; red blood cells, 4,120,000; color index, 0.96; white blood cells, 20,900, with 86 per cent polymorphonuclears, 11 per cent small lymphocytes, 2 per cent large lymphocytes and 1 per cent transitionals. Following the discontinuance of the nasal spray and the ephedrine internally, with the use of local soothing remedies, the skin began to desquamate in four or five days and cleared up rapidly. After complete involution of all lesions both patch and scratch tests were performed, but both were negative. Twenty-four hours later there was an erythematous wheal about 31 mm. in diameter at the site of the scratch test. The control area was negative (fig. 4).

CASE 2.—J. C. M., an intelligent pharmacist, consulted us, Nov. 8, 1928, with a skin eruption involving the nose and upper lip of one week's duration. He stated that this followed a cold in the head. He had had a similar attack about four months previously, at which time several physicians had made a diagnosis of erysipelas. He had been treated at that time with intradermal injections of streptococcus vaccine (three injections at two day intervals) and had been instructed to stop all local treatment. This he did, and the condition promptly cleared, thus confirming the diagnosis of a streptococcal cellulitis!

On examination, November 8, he presented a redness and swelling limited to the lower part of the nose, the mustache area of the upper lip, over which there were numerous yellowish crusts, some serous exudation and slight fissuring in the corners of the nose. A diagnosis of streptodermia was made and the eruption was treated with roentgen rays, ammoniated mercury ointment and wet dressings.

The condition improved and then recurred; December 3, the eruption was worse and had spread symmetrically over the nose and cheeks. This cleared rather shortly and on December 21 there was a slight recurrence. The patient at this time first suggested that the cause of the eruption might be a nasal spray which he was using. This spray contained ephedrine, oil of cinnamon and menthol. He was advised to discontinue the use of the spray, and recovery was prompt.

March 11, 1929, there was a recurrence of the irritating eruption around the nose following a head cold and the use of a nasal spray containing ephedrine. December 18 there was another recurrence, which followed the use of a plain ephedrine inhalant. At this time, however, he also took an expectorant containing potassium iodide, belladonna and some bromides and also six capsules containing three-eighths grain each of ephedrine sulphate. After forty-eight hours he noted a rash on the body in addition to the eruption about the nose and presented a generalized blotchy macular erythematous rash a great deal like that of measles.

This condition gradually cleared and was accompanied by an exfoliation of the palms quite similar to that following scarlatina. When he was entirely clear he again ingested separately bromides, iodides and belladonna without provoking any eruption.

June 18, 1930, the patient took one capsule containing three-eighths grain of ephedrine sulphate. The following morning his nose and upper lip were swollen, edematous and red. On the left anterior thigh was a large hand-sized red raised wheal. A similar lesion was present on the corresponding area of the right thigh but was only palm-sized. Two similar areas were present about each internal malleolus.

The patient stated that whenever he handled whole gland pituitary (powdered) he noted an irritation about the nose.

* Read before the Section on Dermatology and Syphilology at the Eighty-Second Annual Session of the American Medical Association, Philadelphia, June 12, 1931.

This was a clear cut case of sensitization or idiosyncrasy to ephedrine both locally (producing a dermatitis venenata) and internally (producing a dermatitis medicamentosa).

Eight months after his last attack, patch tests of two different kinds of ephedrine were performed. With one, so-called synthetic ephedrine, the reaction was negative; with the other, ordinary ephedrine, the reaction was markedly positive, producing a large erythematous wheal.

At this time we withdrew 15 cc. of blood to be used in our passive transfer experiments to be described later.

In addition to the two cases reported of generalized eruptions due to ephedrine, we have encountered another patient who had what appeared to be a contact dermatitis resulting from the local use of ephedrine spray in the nose. We did not have the opportunity of confirming the diagnosis by skin tests or by the readministration of the drug.

Ephedrine has only recently been incriminated as a causal agent in the production of dermatitis venenata. In Scheer's [1] case, which is evidently the first to be reported, an acute vesicular dermatitis involved the entire face and dorsum of the hands, and was especially marked about the nose, upper lip and eyes. The causal agent was unsuspected and it was only on a repetition of this condition four months later that a nasal spray containing ephedrine was shown to be the causative agent. Higgins [2] has presented a case of chronic ephedrine poisoning, but in his patient skin lesions were lacking.

Fig. 2 (case 1).—Erythematous macular and hemorrhagic eruption of the lower part of the legs due to ephedrine.

PASSIVE TRANSFERENCE OF SENSITIVITY

The Walzers,[3] in extensive experimental studies on urticaria, disclose that experimental wheals could be "produced through internal channels. . . . Such wheals could be produced on most persons with normal skins, by the intradermal injection of serums of certain patients hypersensitive to food and then feeding these tested subjects the specific offending food." This reaction is called "passive transfer" or the Walzer-Prausnitz-Kustner phenomenon. Curiously enough, however, the phenomenon of passive transfer could be demonstrated only with reference to the proteins of egg, fish and pistachio nuts, and most favorably in patients with urticaria who also manifested respiratory symptoms such as asthma or hay-fever. Sulzberger and Kerr [4] recently showed that urticarial hypersensitiveness to trichophytin could be passively transferred by the method of Prausnitz-Kustner. They concluded that "there are circulating antibodies in the blood serum which are carriers of the hypersensitiveness and which can passively sensitize the cells of the skin of normal nonsensitive individuals."

While the exact relationship between drug idiosyncrasy (dermatitis medicamentosa) and protein hypersensitivity (allergy) is unknown, they appear to have certain aspects in common. Thus, as a general rule, the amount of ingested drugs bears little or no relationship to the severity of the cutaneous eruption. Again, at times no cutaneous reaction occurs even on administration of the specific drug. Such patients are said to be in a "refractory state." Cutaneous eruptions, definitely proved to be the result of a certain drug, may disappear while the same drug is being ingested. Cases of desensitization to drug idiosyncrasy have been reported, notably in the case of quinine.[5]

Recent investigations in the field of drug eruptions have been attempts to increase knowledge of such conditions through the use of "passive transfer." In most instances the experiments dealt with the arsphenamines.

Among the earlier cases reported with arsphenamine hypersensitivity was that of Klauder's,[6] dealing with a physician who was hypersensitive to local contact with neoarsphenamine. The patient had a chronic dermatitis of the hands and in handling the drug "frequently sneezed, coughed and was conscious of a sense of pressure and constriction in his chest. At other times a definite attack of asthma was experienced." The dermatitis and the respiratory symptoms greatly improved if he wore gloves when handling and administering arsphenamine and neoarsphenamine (drugs with which he had been in contact, although the dermatitis was only of eight months' duration). They promptly recurred when gloves were not worn. The interesting fact in the case, however, was that eight months previous to the first appearance of symptoms he had served as a volunteer control subject in a study of cutaneous tests with arsphenamine and had had one drop of a 1:100 or 1:1,000 dilution of arsphenamine injected subcutaneously.

Cutaneous scratch tests were positive to both neoarsphenamine and arsphenamine and a control was negative. In attempting desensitization of this patient by giving minute amounts of arsphenamine by mouth, erythema and itching occurred at the sites of the previous scratch tests. An attempt at passive transfer

1. Scheer, Max: A Case of Dermatitis Venenata Due to Ephedrine, Arch. Dermat. & Syph. **20**: 641 (Nov.) 1929.

2. Higgins, W. H.: Chronic Ephedrine Poisoning, J. A. M. A. **92**: 313 (Jan. 26) 1929.

3. Walzer, Abraham; and Walzer, Matthew: Studies in Urticaria: Wheal Production Through Internal Channels, Am. J. M. Sc. **173**: 279 (Feb.) 1927; Urticaria: II. The Experiment Wheal Produced on Normal Skin Through Internal Channels, Arch. Dermat. & Syph. **17**: 659 (May) 1928. Walzer, Abraham: Urticaria: III. The Experimental Urticaria Factitia, ibid. **18**: 868 (Dec.) 1928; Urticaria: IV. Wheal Formation on Abnormal Skins, ibid. **20**: 277 (Sept.) 1929.

4. Sulzberger, M. B., and Kerr, P. S.: Trichophytin Hypersensitiveness of Urticarial Type, with Circulating Antibodies and Passive Transference, J. Allergy **2**: 11 (Nov.) 1930.

5. Heian and Saint Girons: Montpellier méd. **39**: 669, 1917, cited by Coca, A. F., in Tice's Practice of Medicine **1**: 160.

6. Klauder, J. V.: Hypersensitiveness to Local Contact with the Arsphenamines Producing Chronic Eczematoid Dermatitis and Asthmatic Symptoms, Arch. Dermat. & Syph. **5**: 486 (April) 1922.

of the sensitivity to guinea-pigs by means of the patient's serum failed. Klauder brought forth the idea that faulty venipuncture in the administration of the arsphenamine might act in some way to sensitize the patient to subsequent injections of the same drug and hence be a factor in postarsphenamine dermatitis. Sulzberger [7] advises the immediate intravenous injection of arsphenamine following any accidental injection of the drug into the tissue, as it has been found experimentally that this prevents the development of sensitization.

Fig. 3 (case 1).—Erythematous macular and purpuric eruption of the lower part of the legs due to ephedrine.

Schoch [8] reported a case of a generalized subacute dermatitis with erosive stomatitis due to the arsphenamine component of bismuth arsphenamine sulphonate (bismarsen—sulpharsphenamine bismuth). After receiving four injections of bismarsen this patient was used as a "normal" subject in an attempt to transfer arsphenamine hypersensitiveness passively. Three methods were employed: the Prausnitz-Kustner method, in which blood serum of a hypersensitive patient was injected intradermally into the subject; the Koenigstein-Urbach method, in which vesicle fluid obtained by application of cantharides to the skin of a hypersensitive patient was injected; and the Perutz modification of the latter method, in which fluid obtained from vesicles resulting from a positive patch test in a hypersensitive patient was injected. After six hours all three sites were then subjected to a patch test, employing 1:3 aqueous solution of neoarsphenamine, which was kept in contact for twenty-four hours. All three tests and a control were negative.

After the patient had received twenty-two semiweekly injections of bismarsen, a generalized dry, scaly dermatitis developed. The eruption disappeared in about one month under bland applications. About one week after the disappearance of the eruption the patch tests were repeated, 1:3 aqueous solution of neoarsphenamine to the right arm and bismarsen to the left. Six hours after the application of the solution a generalized pruritus developed, followed two hours later by a faint macular erythema of the trunk. The following day both test areas were strongly positive, presenting sharply defined square erythematous and edematous plaques with superimposed vesicles. Twenty-four hours after the drugs had been applied, the generalized reaction had developed into a scarlatiniform erythema most marked on the trunk and thighs. The generalized rash subsided in forty-eight hours; the skin test sites showed slight scaling at the end of a week.

Since they were unable to demonstrate passive transference of arsphenamine hypersensitivity; either originally when this patient was subjected to the experiment or after the development of his positive patch tests following his dermatitis, in which blood serum and vesicle fluid was tested on a normal subject, the authors interpret the later positive patch tests as signifying an active sensitization of the skin due either to a minute amount of neoarsphenamine, which was present in the intradermally injected vesicle fluid, or to a minute amount of the drug, which may have gained entrance to the skin through the needle puncture wound while the site was overlaid by the 1:3 neoarsphenamine solution.

Recently, both Frei [9] and Sulzberger [10] have been able to sensitize guinea-pigs by intradermal injections of arsphenamine. This sensitivity was such that a second injection (intravenous) was followed by the development of localized or generalized dermatitis. No experimental work was done on human beings, nor was passive transfer attempted. Sulzberger was, however, unable to sensitize American guinea-pigs to arsphenamine.

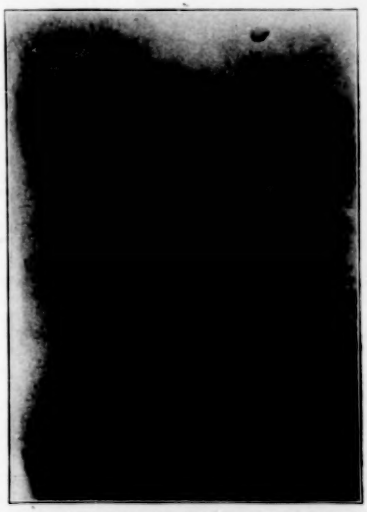

Fig. 4.—Positive scratch test to ephedrine sulphate (center); the control was negative. Upper two are intradermal tests and control (negative).

Templeton and Skilling [11] recently attempted the passive transference of arsphenamine hypersensitive-

7. Sulzberger, M. B.: Arsphenamine Hypersensitiveness in Guinea-Pigs: I. Experiments in Prevention and in Desensitization, Arch. Dermat. & Syph. **20**: 669 (Nov.) 1929.

8. Schoch, A. G.: Arsphenamine Sensitization Tests Including a Report of Arsenical Dermatitis Due to the Arsenobenzol Radical of Bismuth (Bismuth Arsphenamine Sulphonate), Am. J. Syph. **14**: 75 (Jan.) 1930.

9. Frei, W.: Untersuchungen mit Neosalvarsan am Tier, Klin. Wchnschr. **7**: 1026 (May 27) 1928.

10. Sulzberger, M. B.: Arsphenamine Hypersensitiveness in Guinea-Pigs: II. Experiments Demonstrating the Rôle of the Skin Both as Originator and as Site of the Hypersensitiveness, Arch. Dermat. & Syph. **22**: 839 (Nov.) 1930.

11. Templeton, H. J., and Skilling, L. E.: An Attempt to Demonstrate the Passive Transfer of Arsphenamine Hypersensitiveness, Am. J. Syph. **14**: 487 (Oct.) 1930.

ness by intradermal injections into guinea-pigs and nonsensitive human beings. They were unable to demonstrate such passive transfer.

Kesten and Laszlo [12] have reported cases of dermatitis venenata due to contact with the following drugs: phenylenediamine compounds, sodium bichromate, procaine hydrochloride, potassium mercuric iodide, and pyrethrum. In each instance, attempts to transfer passively by hypersensitiveness by means of the Prausnitz-Kustner method were unsuccessful.

EXPERIMENTS

In view of the giant urticarial reaction that followed the last ingestion of ephedrine in patient 2, 20 cc. of his blood were removed, centrifugated and injected subcutaneously and intradermally into five normal nonsensitive adults, all of whom had previously taken ephedrine by mouth without visible cutaneous reaction. From twenty-four to forty-eight hours after this attempt at passive transfer, each individual again ingested three-eighths grain of ephedrine sulphate. No reactions were observed at the site of injection or elsewhere in any individual. The experiment was repeated, serum from patient 1 being used, with similar negative results.

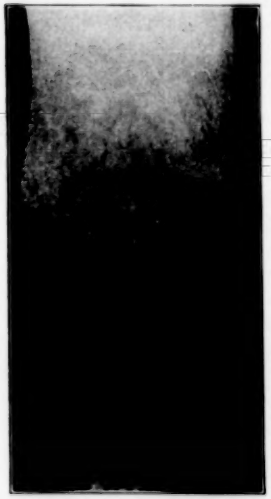

Fig. 5 (case 1).—Erythematous macular and purpuric eruption of the lower part of the leg due to ephedrine.

COMMENT

Summarizing the experiments cited in this paper, it will be seen that all attempts at passive transfer by the Prausnitz-Kustner method of nonprotein substances, such as drugs, have failed. The few successful attempts at passive transfer have been achieved with a very limited number of protein substances and in a more or less restricted group of cases, especially urticaria associated with hay-fever and asthma. Obviously, no conclusions regarding the relationship of drug idiosyncrasy to protein hypersensitiveness are justified on the basis of these experiments at the present time. In fact, it is impossible to say dogmatically that a drug hypersensitiveness is or is not a protein hypersensitiveness, since any drug or chemical molecule may and probably does under certain conditions attach itself to a tissue protein molecule, thereby producing an altered protein molecule. This altered protein molecule may then stimulate the formation of specific antibodies, which on subsequent contact with a similar altered drug-protein molecule may result in a characteristic allergic reaction. At any rate, the technic of passive transfer offers a promising method for the investigation of this obscure subject.

12. Kesten, Beatrice; and Laszlo, Elizabeth: Dermatitis Due to Sensitization to Contact Substances, Arch. Dermat. & Syph. 23: 221 (Feb.) 1931.

SUMMARY

1. Two cases of dermatitis medicamentosa due to ephedrine have been presented in which there were both a local dermititis at the point of application and a more or less generalized eruption, erythematous and purpuric in case 1, and erythematous and edematous in case 2.

2. Knowledge that ephedrine can produce such cutaneous manifestations may be of value in determining the cause of obscure eruptions about the nose, face and elsewhere.

3. We were not able to demonstrate passive transfer in two cases of marked hypersensitivity to ephedrine.

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PROCAINE DERMATITIS

REPORT OF CASE AND ATTEMPT TO DETERMINE CHEMICAL GROUPS RESPONSIBLE FOR HYPERSENSITIVENESS *

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Although cases of skin hypersensitiveness to procaine hydrochloride have been reported, in only a comparatively small number has the blame been absolutely fixed on this substance by means of skin tests, as, for instance, in the cases reported by C. Guy Lane.[1] Lane found that, in two patients suffering from a dermatitis of an erythematous papulovesicular type, the chance spilling of procaine on the skin while performing the scratch skin test caused an eczematous skin reaction to appear the following day. The skin eruption was limited to the area on which the procaine had been spilt. In Lane's cases the scratch test for immediate wheal formation was negative. This is in accordance with what has been recently noted as being the case in dermatitis of the eczematous type. The scratch test is usually negative but the contact test is positive.

In the case of Galewsky,[2] dermatitis due to eye drops containing procaine, the blame was quite definitely fixed on the drug. In this case, however, no skin tests were employed, and the fact of the appearance of the dermatitis with the use of the drug and cessation of the dermatitis with discontinuance of the drops was the proof of the cause of the dermatitis. Galewsky reports his own reaction to eye drops containing procaine. In 1925 he used an eye wash containing 1 per cent procaine for hay-fever and apparently did not have any reaction. In 1926, following a croupous pneumonia, he used it again and a severe eczema of the eyelids and adjacent portion of the cheeks occurred. The discontinuance of the eye wash and soothing applications caused the eruption to disappear promptly. Some time later he again resorted to the use of the drops for experimental purposes and within two hours after their use an extensive erysipeloid swelling occurred which involved the eyelids and cheeks. J. Jadassohn told him that he had seen a patient with an ulcer on the cornea following the use of drops containing procaine.

* Read before the Section on Dermatology and Syphilology at the Eighty-Second Annual Session of the American Medical Association, Philadelphia, June 12, 1931.

1. Lane, C. G.: Occupational Dermatitis in Dentists: Susceptibility to Procaine, Arch. Dermat. & Syph. 3: 233 (March) 1921.

2. Galewsky, D.: Dermat. Wchnschr. 85: 1195 (Aug. 27) 1927.

The following report of a case of procaine hypersensitiveness illustrates the use of the patch test in determining the causes of obscure eczematous dermatitis. The patient consulted Dr. Wise and Dr. Sulzberger in September, 1929, and was referred to me for investigation.

REPORT OF CASE

History.—Miss D., aged 38, applied for treatment in September, 1929, complaining of swelling and inflammation of both the upper and the lower eyelids, combined with a conjunctivitis of both eyes. Her medical and family histories were negative.

She first noticed the condition of her skin six months previously, and it had been continuous since that time. The pain and discomfort were very severe, causing insomnia and loss of weight, and rendering her very nervous. She had consulted several ophthalmologists, and all manner of clinical and laboratory methods had been employed without resulting in definite improvement. Her condition had been diagnosed as eyestrain, sinus and tonsil infection, endocrine disturbance and hay-fever. Naturally the therapy in each case fitted the diagnosis. All was without benefit, and the condition of her skin as well as her general condition continued to go from bad to worse.

The eruption had first appeared while the patient was in the country in a region where ragweed and cocklebur were pollenizing. Furthermore, an ophthalmologist whom she had consulted four years previously had prescribed eye drops, which she used occasionally. She had not thought it necessary to mention this because she had been using the eye drops continually during the past four years. She had been told that the drops were harmless, and the eruption had appeared only six months before she came under observation.

Physical Examination.—The patient appeared to be very nervous but intelligent, and except for the condition of the eyes and the eyelids the examination was negative. The conjunctivae of both eyes were reddened and injected, and there was marked photophobia. The upper and the lower eyelids were swollen and their skin was a dusky red and was covered with fine dry scales. The erythema, swelling and scaling extended to both sides of the nose and to the upper part of both cheeks. There was also considerable nasal discharge of a mucopurulent nature.

In consideration of the history and the clinical observations, I decided to test the patient with the pollens, the products of the bacteria from the nasal secretion and the cosmetics with which she came in contact. Patch tests[3] were performed with vaccines, with the pollens in question, the entire list of cosmetics and other materials she had been using, including rouge, mascara, lemon wash, face powder, eau de quinine hair tonic, Elizabeth Arden cream, the tortoise shell of which the patient's eyeglasses were made, and the eye drops.

The testing was done, Oct. 9, 1929, and on October 10 no reaction was present at the site of the tests. October 11, all the tests were still negative except the site of the application of the eye drops, which showed a sharply circumscribed papulovesicular eruption correspondingly exactly to the site of the application of the test with the drops. The prescription for the eyedrops was obtained from the druggist and was found to contain procaine 1 per cent, boric acid and distilled water. Tests were then made with a 1 per cent solution of procaine in distilled water. These resulted in a strongly positive reaction after forty-eight hours, similar in appearance to the one previously described. The eye drops were discontinued, a bland ointment was prescribed, and one-fourth skin unit of x-rays was given weekly. Following this, the eruption disappeared and did not return. The patient allowed me to continue the tests with the various substances related to procaine and with the other local anesthetics, with the results shown in the accompanying table. Scratch skin tests were done also with procaine and various pollens, all of which gave no reaction.[4] All the solutions of the drugs used were 1 per cent in water or, if insoluble, were dissolved in alcohol.

In an attempt to correlate the observations with the chemical groups forming the local anesthetics used in my experiments, it is interesting to note that while the patient's skin was sensitive to procaine, $H_2N\bigcirc COOC_2H_4N(C_2H_5)_2$, there was no reaction obtained by the application of paraminobenzoic acid, $H_2N\bigcirc COOH$, but a distinct reaction occurred to diethylaminoethanol, $HO.C_2H_4N(C_2H_5)_2$.

As was to be expected, the anesthetics of the cocaine group did not cause reactions. A further point which may be of interest is that, while the procaine base caused a marked skin reaction, procaine borate caused none at all. Unfortunately, no explanation can be given for these biologic variations. In my tests no relation between the idiosyncrasiogenic qualities of the chemical and their dextrorotatory or levorotatory properties could be found, such as the idiosyncrasy recently reported as existing in the case of urticarial hypersensitiveness to quinine, cinchonidine and other alkaloids of the cinchona series.[5]

Substances That Were Tested and Results of Tests

	Substance	Result
1.	Procaine	Positive
2.	Benzocaine	Negative
3.	Butyn	Positive
4.	Butesin	Negative
5.	Encipin	Positive *
6.	Vuzin	Positive *
7.	Tropacocaine	Negative
8.	Cocaine	Negative
9.	Holocaine	Negative
10.	Orthoform	Negative
11.	Tutocain	Negative
12.	Alypin	Positive
13.	Borocaine	Negative
14.	Para amino benzoic acid	Negative
15.	Diethylaminoethenol	Positive
16.	Procaine base	Positive

* Very weak.

Dr. A. E. Sherndal of the H. A. Metz Laboratories, Inc., who assisted with the chemical problems, was of the opinion that no relationship could be determined between the constitutional formulas of the substances used and their irritant properties on the hypersensitive skin of the patient.

SUMMARY

A woman, aged 38, had been suffering continually for six months from a severe dermatitis of both eyelids and adjacent portion of the cheeks and nose. This had been ascribed to various causes, and all treatment had been of little benefit. The skin of both eyelids was markedly swollen, edematous and was a dusky red. The eruption was in an unusual location for a dermatitis due to an external cause and it was only by persistent questioning of the patient and by the use of the patch test with various substances that the cause (procaine) could be found. Following the removal of the cause and with simple therapeutic measures, the condition promptly disappeared.

The absolute proof of the causative agent was obtained by means of the patch test, and the value of

3. Sulzberger, M. B., and Wise, Fred: The Contact or Patch Test in Dermatology, Arch. Dermat. & Syph. **23**: 519 (March) 1931.

4. Sulzberger, M. B.: Allergy in Noninfectious Diseases of the Skin, M. J. & Rec., November, 1930.

5. Dawson, W. T., and Garbade, F. A.: Idiosyncrasy to Quinine, Cinchonidine and Ethylhydrocupreine and Other Levorotatory Alkaloids of the Cinchona Series, J. A. M. A. **94**: 704 (March 8) 1930.

the patch test is again demonstrated in determining the cause of eczematous dermatitis of obscure origin.[6]

An unsuccessful attempt was made to link the chemical constitution of a certain group of related substances with their idiosyncrasiogenic effects on the hypersensitive skin.

31 Lincoln Park.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. AYRES AND ANDERSON AND DR. JAMES

DR. E. W. ABRAMOWITZ, New York: The paper of Drs. Ayres and Anderson interests me particularly as I had a patient, last January, with a dermatitis also due to ephedrine. Although the use of this drug is fairly recent, reports of intolerance are beginning to appear. Up to now one case has been reported by Scheer, four cases have been reported by Ramirez and Eller, two cases have been reported by Drs. Ayres and Anderson, and I have seen one. Several authors have already reported systemic reactions from the use of ephedrine, and the symptoms are somewhat different from those produced by epinephrine. Although the pharmacologic effects of the two drugs are in many ways similar, ephedrine does not seem to have the deleterious action of epinephrine in patients with exophthalmic goiter. Noah Fox has recently shown that ephedrine caused very little injury to the nasal mucosa of rabbits even after prolonged contact with the mucous membrane, whereas epinephrine causes considerable damage to the tissues. On the other hand, there is only one report of an urticaria following the endonasal application of epinephrine since this drug has been introduced. There is also a report of a local gangrenous lesion developing at the site of injection of epinephrine. Contrast this with eight cases of dermatitis now on record as produced by ephedrine in the last few years. There are probably some other cases that may have been overlooked. No one has succeeded so far in the passive transfer of the hypersensitiveness to ephedrine to a normal person. In my patient, I obtained an erythematous wheal in the husband, who was normal, at the site where I had previously injected intracutaneously the hypersensitive serum obtained from the wife, who was definitely allergic to ephedrine. The literature dealing with idiosyncrasy to drugs is rather intricate. So far as I know, passive transfer to man of eczematous eruptions produced by drugs has failed. In a few cases they have been transferred to animals with a few takes. I believe that continued research in this direction will be crowned with success if some improvement in the method of experimentation can be developed.

DR. MARION B. SULZBERGER, New York: I think that both ephedrine and procaine are well known as skin irritants but, as Dr. Abramowitz brought out, the proofs in these cases of hypersensitiveness are rare. Most workers have assumed that the history was sufficient and have not taken the trouble to make tests. Among the cases in which my associates and I have proved that the drug causes the eruption are those of Dr. James and Dr. C. Guy Lane, who found, although the wheal reaction was negative, that on the day following the test the procaine had spoiled a positive result. He had done an accidental patch test. These are the only cases on record, so far as I know. It is impossible to exaggerate the tremendous relief that is brought to the patient when one is fortunate enough to find the cause. Dr. James's patient had suffered not only from the disease but from treatment to a marked degree. Unfortunately, success is rarely obtained; but in the successful cases it is well worth while. These two conditions must not be confused with other types of drug eruption. These are eczemas. The mechanism is absolutely inherited, regardless of what the cause may be, whether procaine, ephedrine, primrose or what not. I wish that Drs. Ayres and Anderson would change the word "wheal" for I think it is not a wheal but a circumscribed area, and it is important not to confuse the two. The other drug eruptions are entirely different. The phenolphthalein, the acetylsalicylic acid and so on have nothing to do with eczema. In these I never have obtained positive tests and never have obtained passive transfer.

DR. ARTHUR G. SCHOCH, Philadelphia: The patch test has interested us in the clinic of Dr. Stokes for the last two years, with particular reference to its application to arsphenamine dermatitis. In this connection I wish to say a few words about some unpublished data, which I believe have a direct bearing. Most of the patch test experiments have been in the direction of trying to find the etiology in cases of dermatitis and eczema. The patch test in connection with arsphenamine dermatitis has also prognostic significance. Dr. Sulzberger tried to show some relation between the patch test and sensitiveness to arsphenamine prior to the onset of arsphenamine dermatitis and was not very successful. We have not been successful either in this respect. The one place in which the patch test has proved of use has been in the patients that have recovered from definite arsphenamine dermatitis. If the dermatitis was severe enough, a positive patch test was obtained to neoarsphenamine, bismuth arsphenamine sulphonate and sometimes to silver arsphenamine. The point I wish to stress is that, although we feel that we have not accumulated a sufficient number of cases to justify definite conclusions (we have only eight in all), the results are entirely in keeping with the idea that if the patient has become sufficiently sensitized to arsphenamine to give a positive patch test he will not tolerate further arsphenamine therapy. On the other hand, if he does not give a positive patch test he will tolerate further arsphenamine therapy. This is extremely important, for it is well known that some patients develop an arsphenamine dermatitis early in the course of treatment. They are commonly young persons who need intensive treatment. Hence it is extremely important to determine whether they can tolerate more arsphenamine without recurrence of the arsphenamine dermatitis. We have found the patch test an excellent guide to further arsphenamine therapy in eight cases. The results of the patch test prohibited our use of arsphenamine in four of the eight cases. We were further aided by the fact that three out of these four patients who we decided could not tolerate further arsphenamine received arsphenamine elsewhere and developed a second outbreak of arsphenamine dermatitis.

DR. C. GUY LANE, Boston: I was interested in the definition given by Dr. James of the factors in procaine dermatitis. This is excellent work along a line with which one should be familiar in attempting to find the exact element that is the cause of the trouble. About a year ago I had the opportunity to see four interns within a period of two or three months, all of whom were sensitive to procaine. They had a dermatitis on their hands, and scratch tests and patch tests both proved that they were sensitive to this drug. These comprise, with the exception of one other patient I have seen, the only ones studied who have not been dentists and dental assistants. I know of one nose and throat specialist who was definitely sensitive to procaine. In one of these interns when first seen the eruption on his hands was strikingly like an epidermophytosis and was treated as such. Later a suspicion of procaine was raised and he was definitely proved to be procaine sensitive, and the condition cleared up as the use of procaine was discontinued. I wonder whether this case comes under the head of the cases described by Dr. White yesterday, in which a fungus infection aids in the sensitization process. If so, it opens up a tremendous field in industrial dermatosis cases. There are one or two interesting facts above these tests of procaine on the skin. I was impressed with the occasional lateness of the reaction, appearing after twenty-four hours and continuing. In several of the dentists there was an absence of reaction on the mucous membrane, and in two instances absence of reaction to tests applied to the abdomen. The forearm tests were positive, indicating a localized sensitivity to procaine. In addition, in one instance, in which the test might have been applied to an area previously tested, it seemed that the response was much greater than in the area not previously tested. These dentists reacted to a dilution as low as 1:50. I did not carry the dilution lower but think it possible that they might have reacted to a dilution even lower than that.

DR. SAMUEL AYRES, JR., Los Angeles: I am glad Dr. Lane brought up the point about the dentists, particularly the one who was first thought to have epidermophytosis which turned

6. Sulzberger, M. B., and Wise, Fred: Eczema from the Modern Viewpoint, M. J. & Rec. 133:71 (Jan. 21) 1931.

out to be due to procaine. In the course of two weeks I saw two dentists with lesions, one of which was proved to be positive to procaine, as shown by a patch test. In the other there was a negative patch test but we found fungi in scrapings from the fingers. The cases were practically identical clinically. With regard to the type of eruption from ephedrine, in our cases in which the eruption was due to local contact with the drug the lesions were rather edematous and red with some exudation, but the general manifestations in our two cases due to internal administration of the drug were more erythematous, urticarial and purpuric.

THE PRACTICE OF MEDICINE AS A PROBLEM IN INDUSTRIAL HYGIENE *

REGINALD FITZ, M.D.
BOSTON

In these days, when the broader aspects of medicine have come to the foreground in the public mind, when various phases of medical economics are being studied most critically by several different agencies, and when industrial and public health work have become well recognized medical specialties, it is curious how little consideration is given to the physical welfare of physicians, of whom there are more than 140,000 at work in the United States today. Our professional life seems to expose us to certain health hazards in the way of illness that are likely to prove wasteful of time and money even if they do not shorten our lives. And yet but rarely does the individual physician or any one else trouble to analyze the nature and importance of these hazards or to offer suggestions as to what can be done to avoid them. Certainly no other modern, well organized industry is quite as casual in regard to the health of such a large number of highly trained professional workers.

THE CAUSE OF DEATH AMONG MEDICAL PRACTITIONERS

The American Medical Association does a most interesting and valuable piece of work each week by recording in THE JOURNAL the deaths of physicians and their causes. If one studies this column regularly, an important fact becomes apparent. Medical men do not die as do other people. We appear relatively immune to fatal tuberculosis, for example, but are as sensitive as any one else to pneumonia. Perhaps we are somewhat less likely to succumb to cancer than are our patients but, on the other hand, cardiovascular disease in any one of its several forms kills us with more than normal frequency.

A doctor, on graduating from the medical school, can look forward with reasonable confidence to some thirty-five years of active work, barring, of course, accident. About 4,500 men enter the profession each year from the doors of the medical schools and about 2,800 go out of it each year by dying. If one divides physicians into age groups, it appears that a few more than a third are less than 44 years old, about half are between the ages of 45 and 64, and only about one tenth live to be more than 65. On the whole, we are not so long lived a race as perhaps we should be in view of our knowledge and training. At least we do not appear to demonstrate any striking ability to live longer or more comfortably than do people untrained in the recognition and management of disease.

Our younger colleagues are fairly healthy, but about five in every thousand die in each year. In our middle-aged group the mortality rate is much higher, for here twenty in every thousand go out in a year, and the mortality rate increases rapidly with age so that, among the 17,000 physicians who live to be more than 65 years of age, the annual mortality rate is 70 per thousand.

It is interesting to compare the common causes of death in these different age groups. Even before their early forties, physicians die of vascular disease. Among the young ones, however, infection and trauma take the heaviest toll. This, perhaps is natural for it is these men, on the whole, who are leading the most strenuous lives. In this group are the interns in hospitals, more or less continually exposed to infection, or young men doing night work for their seniors and getting wrecked in motor or airplane accidents in their zeal to traverse wide distances in a short time. Perhaps they become run down and tired out by the hard

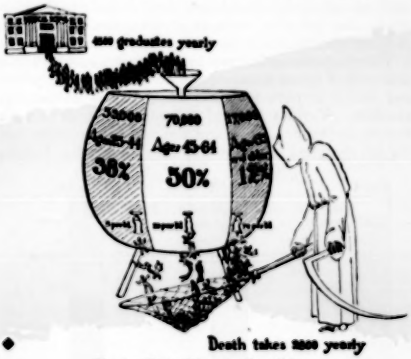

Fig. 1.—The melting pot of medicine.

pace and succumb rapidly to whatever acute infection fastens on them. Or perhaps they become discouraged by overwork and worry and are led to commit suicide, for it is in this age group that the majority of medical suicides occurs each year.

In the older groups, infection and accidents of one sort or another are less of a menace. The mortality from cancer, on the other hand, increases to a considerable extent, but the devastating effect of vascular disease becomes most striking.

Every one must die sometime, and perhaps those of us in the older two thirds of the procession can take the attitude that to die young is unfortunate, while to die of vascular disease at the height of our careers, after a good many years of active, happy living is no more of a calamity than to die of anything else. If one could be guaranteed a sudden exit, this line of reasoning might be sound. I have the impression, however, that such a fortunate ending does not take place very often and that many a physician is forced to endure for a long time the chronic effects of vascular disease like angina pectoris, which does not kill but demands months or years of inactivity, or slowly progressive cardiorenal disease with relentlessly increasing

* From the Medical Clinic of the Peter Bent Brigham Hospital.
* Read before the Section on Preventive and Industrial Medicine and Public Health at the Eighty-Second Annual Session of the American Medical Association, Philadelphia, June 10, 1931.

impairment of physical and mental functions, or nonfatal hemiplegia. Anything within reason to prevent the development of such disasters is desirable.

THE HIGH COST OF SICKNESS

The doctor, notoriously, is a bad business man and not given to looking into the future. It is an interesting fact, however, that with the high cost of medical care such an important issue in the mind of the layman, the physician does not consider the problem from his own point of view and realize that his own inevitable illness may readily prove an almost unbearable financial burden.

During my first year in practice, a few months after I had begun and just when I seemed to have made a fair start, I was laid up for three weeks. The effect on my income of even such a short illness was noteworthy.

Three weeks of sickness knocked out my earning capacity for more than three months. Every one that might have wanted to see me seemed to assume that I was too ill to work and kept away from me. In case of emergency my patients employed some other medical colleague and advised their friends to do likewise. My practice, such as it was, nearly vanished. A short vacation was almost as demoralizing.

This experience led me to feel that sickness for a doctor is a gross extravagance which few can afford and which it pays to avoid as far as it is humanly possible. Various medical friends, to whom I have shown my figures, have had the same experience, yet far too many acknowledge that they do not dare to take

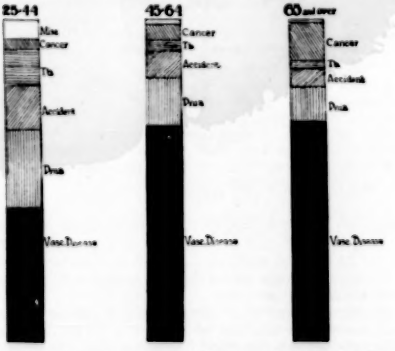

Fig. 2.—The common causes of death among physicians at different ages.

a vacation each year because it takes so long to earn a normal income again after a reasonable holiday is ended. This state of affairs, of course, is wrong.

THE INDUSTRIAL HYGIENE OF MEDICAL PRACTICE

On the whole, as can be seen, I have the impression that physicians incline to be unnecessarily lax in regard to matters pertaining to their own health. We know that as a group we are not very long lived. We know that in our early days we face an appreciable risk of becoming incapacitated through any one of several infections to which we are often exposed and that, as time goes on, we become more than usually liable to the unpleasant manifestations of vascular disease. Finally, we know that even the simplest illness which compels us to take time away from work is unduly expensive in terms of money. And yet we do but little to avoid such disagreeable eventualities. In view of these facts, is it not timely to suggest that by improvement in our industrial hygiene, so to speak, we can perhaps do something in a constructive way to minimize the penalties incurred by our peculiar occupational accidents and hazards?

Our present state of knowledge makes it impossible to do more than speculate about the cause or prevention of vascular disease. The periodic health examination designed to make possible the early recognition of illness has, seemingly, when applied to ourselves, strangely little appeal. Two factors in our lives, however, which may have something to do with the development of vascular disease and which are to a certain extent controllable, may be worth mentioning.

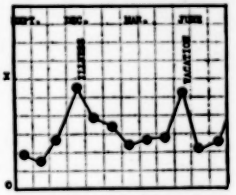

Fig. 3.—The effect of illness on a physician's monthly income.

Young doctors are exposed to acute infection. Acute infections are not only a common cause of death among them but also a common cause of disability. In the Peter Bent Brigham Hospital, for instance, about a third of our house officers enter the institution as patients at some time during their period of service and usually for acute illness of some sort. I dare say that this experience is duplicated in any other large general hospital where the house staff receives due medical supervision. Possibly these illnesses, supervening as they do in early adult life, and often due to the streptococcus, may bear some relation to the later development of vascular degenerative changes. Certainly it is highly desirable that the number of acute infections among young practitioners should be reduced to a minimum.

Older physicians appear to expose themselves unnecessarily to the possible dangers of too rapid a gain in weight. Most of us like our middle-aged patient to lose weight rather than to put it on, but we ourselves, apparently, are likely to set the community a poor example in this respect.

I realize that it is difficult to teach old dogs new tricks. Those of us past the 45 year mark no doubt will continue on our way regardless of what we should do, putting on more weight than we ought, neglecting vacations and exercise, gambling with fatalistic optimism that we shall not fall ill, overworking, overworrying, and developing arteriosclerosis with the same cheerful indifference as have our predecessors. Perhaps the younger generation will prove more amenable to reason: it is for the 4,500 young men entering the field each year that I urge more definite consideration.

Each medical school in the country owes its students a sound medical education and, also, adequate housing facilities and some sort of health supervision. At Harvard, we are lucky enough to have a new homelike dormitory for our men, with good dining room service. Here they are comfortably housed and obtain at reasonable cost a properly balanced, wholesome diet, well cooked and attractively served. Attached to the dormitory are a modern gymnasium and several squash

and tennis courts, where each afternoon during the school year more than 100 of the 500 students get some sort of regular exercise and recreation. Such equipment, from the point of view of the industrial hygiene of medicine, has already proved a notable adjunct to the health and efficiency of our school and should be duplicated in other institutions.

It is the rule at Harvard that each medical student have an annual physical examination. In this way, any latent illness is discovered. Moreover, the physical examination is made into a teaching exercise whereby each student can decide from personal experience whether he considers a periodic health examination useful or not. An attempt is made to train the men in making this examination and to give each one reasonable advice in regard to methods for protecting his own future health. For example, men with obviously infected tonsils or teeth are advised to have such foci of infection removed; men with heart disease are taught how to make the best of such a handicap; bad posture is corrected, weight is regulated, and various mental twists are straightened out. I have hopes that this sort of an exercise in hygiene applied *ad hominem* will train undergraduates in the importance of taking care of themselves in later life and thus serve as something of a protective measure against the industrial hazards soon to be encountered. It will take many years to tell whether this hope can be justified. Perhaps various other schools will carry on a similar plan of investigation so that accurate data can be accumulated in regard to the effect, on the health and duration of life of these men, of preventive medicine and hygiene taught in a practical personal fashion to them as medical students.

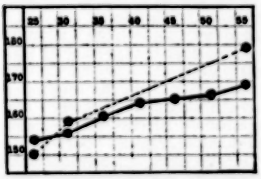

Fig. 4.—How physicians gain weight too rapidly. The solid line represents weight gain at different ages (according to life insurance tables) and the dotted line weight gain at different ages by physicians. The three points on the dotted line represent the average weight of eighty men at graduation from the Harvard Medical School, the average weight of the same eighty men five years later, and the average weight of twenty older practitioners. Of these, fifteen were examined for some crippling manifestation of cardiovascular disease.

Each hospital [1] in the country owes its resident staff the best possible facilities for carrying on medical work. But it also owes the staff equally perfect equipment in the way of living quarters, good food, and opportunities for rest and recreation.

Large sums of money are being given to hospitals continually by benevolent people; new wards, new laboratories, new operating theaters spring up in luxuriant crops. Those in a position to direct the destinies of hospitals should remember the intern in their building plans. There are 5,500 internships available each year in this country, so that practically every doctor nowadays begins his work with a year or more of intensive hospital training. Thus the intern has become acknowledged as a very important member of the industry of medicine. The hospital is his workshop. He is an unusually hard working, highly trained laborer. Being the kind of man he is, and often serving without pay, it is impossible to limit his working hours or even to prevent him from working unreasonably hard if he chooses so to do. But he has every right to receive as compensation for his efforts whatever is possible in the way of protection against the hazards of his occupation.

Good modern wards, for instance, where proper management of infectious cases can be carried out, are certainly essential for both patients and staff. Good modern laboratories, in which can be rendered harmless the infectious material that must be handled, are also essential. But since the intern must live in the hospital, his rooms, bathing facilities and food must be equally good and modern, so that he can rest comfortably, have privacy and some opportunity for contemplation, keep clean and be well nourished. Since he is young and probably accustomed to playing games, he requires also some sort of an opportunity for exercise so that he can keep both body and mind in good trim during this period of his career.

It is along these lines, I think, that the hygiene of our industry at present can best be improved. But first it is necessary to drive home the point that physicians are faced with certain industrial hazards that are not only dangerous to life but also uncomfortable and expensive to bear. Admitting this, it may be possible to devise means for protection by which the active part of our lives can be made happier and longer, and thus more useful and productive.

1. The house officers in the Peter Bent Brigham Hospital have facilities for outdoor sleeping, tennis and squash courts and are so fed that the majority gain weight. It would be interesting to know how much illness there is among the interns of busy hospitals which offer their staffs less satisfactory living quarters and food.

AN APPROACH TO THE STUDY OF DEGENERATIVE DISEASE *

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Scientific medicine has yielded information that has led to definite prolongation of life, but this achievement is the result, primarily, of preventive and curative measures in the more acute diseases. The greatest progress has been made when it has been possible to observe and record symptoms, signs and pathologic changes from the earliest departure from normal until ultimate cure or death. Present knowledge is largely the result of correlated studies in instances in which the rapid sequence of events has permitted the successful application of the principle of "wait and see." Carefully kept hospital and private records have made possible the review and study of the sequence of events leading to a given outcome and the formulation of definite criteria for prognosis. On the other hand, studies of chronic degenerative diseases have been confined almost exclusively to the end-stages. Henry Christian recently said:

> The problem of preventive medicine in relation to chronic disease in the adult appears to me to be very largely unsolved or, to put it in another way, we have very little knowledge of what method should be followed to decrease the incidence of those chronic diseases . . . which constitute the cause of death in a very large per cent of adults, especially in those beyond the forty year period of life.

If progress is to be made in the study of degenerative disease, the medical profession must set in motion a program through which the symptoms and signs

* From the Department of Preventive Medicine of the A. O. Smith Corporation and Marquette University Medical School.
* Read before the Section on Preventive and Industrial Medicine and Public Health at the Eighty-Second Annual Session of the American Medical Association, Philadelphia, June 10, 1931.

present from time to time may be studied throughout life. The principles that have been used so successfully in the study of acute diseases must be applied, but recorded observations must extend over decades instead of months. Mackenzie has said:

> It is necessary to know the life history of such diseases from their onset to their termination in death or recovery. The investigators must have the opportunity of seeing such diseases in all stages so that they may detect the circumstances that favor or induce their onset; can watch the phases from the early stages when the symptoms are limited mainly to feelings of ill health on to the later stages when the agents of disease have damaged the tissues and produced physical signs.

The economic loss resulting from premature death and disability has awakened industry to the importance of health conservation measures. Industry needs the help and cooperation of organized medicine to direct its efforts into channels which will be productive of the greatest good. Properly guided, industry can be of distinct service both to employees and to the family physician by providing diagnostic facilities and opportunity for a thorough periodic physical examination such as otherwise would be unavailable save in dispensaries. This can be done, furthermore, without interfering with private practice or destroying the close personal relationship between the patient and his family physician.

Six years ago it was my privilege to take part in the organization of a department of preventive medicine in a large industry. The original objective, which has remained unchanged, was twofold: (1) the discovery and elimination of disease and more especially of the precursors of disease within the group of employees and dependent members of their families; (2) a study of the preclinical signs of degenerative disease through ultimate analysis of carefully kept records. This department was entirely distinct from the usual first aid department, which was already present. The service has been purely diagnostic with especial emphasis on examinations of the supposedly healthy. No therapeutic functions of any kind have been undertaken. To avoid spending time on industrial drifters, six months' employment was required for eligibility for examination. The examinations have been entirely voluntary and the confidential relationship between the examining physician and the patient has been maintained strictly. The company agreed that the purpose would be defeated if employees were afraid to take advantage of the opportunity for fear of possible discharge or through fear that information contained in their records might be used against them in subsequent compensation claims. This unusual but wise provision has created a feeling of confidence among the employees, making possible a relationship that otherwise would be unattainable. As the acquiring of data about the early signs of degenerative disease has been a fundamental purpose, a history and physical examination have been made which would be regarded as unnecessarily thorough if immediate practical purposes alone were considered.

The minimum routine has consisted of a carefully taken history; thorough physical examination, including various measurements; vision, hearing, grip and vital capacity tests; roentgenograms of the chest; electrocardiogram; urinalysis; complete differential blood count; Wassermann and Kahn tests, and dental examination with full mouth roentgenograms of the teeth. This has served as the basis from which metabolic studies, bacteriologic studies, all types of roentgen examinations and other special studies, including necessary examinations by consultants, have been made as indicated. After assembly of all data required, a detailed summary and analysis has been made by the examining physician, in which corrective measures are suggested and an attempt made to evaluate the probable significance of obscure symptoms or signs. Minor deviations from the normal are enumerated, even if they are not considered to be of clinical importance. A copy of the entire record is sent to the individual's family physician and, should he find it desirable to have further follow-up studies, these are made as requested. Corrective treatment rests with the family physician exclusively. Reexaminations are made as often as conditions warrant, but always an attempt is made to recheck at least once each year. Records are closed only after the individual leaves the company or dies. The fact that 65 per cent of those first examined still were employed after five years leads us to believe that we are dealing with a population sufficiently stable, so that, eventually, consecutive observations will be available from a reasonably large number of individuals throughout the probable developmental period of chronic disease.

The early discovery and elimination of correctable defects through such work contributes materially to health conservation in an industrial group. Working efficiency is maintained at a higher level, and loss of time from preventable illness is reduced to a minimum. In addition, the realization that the company is interested in the individual welfare of its employees necessarily instils loyalty. Six years of unretarded progress is good evidence that the executives concerned thoroughly believe in the economic soundness of the work.

The plan described provides diagnostic facilities for the industrial wage earner which otherwise, at least under the present system of medical practice, would not be available and furthermore, instead of depriving the family physician of his clientele, actually sends patients to him at a time when treatment can accomplish most.

Present knowledge of constitutional tendencies and minor defects permits the physician to point out conditions which, if corrected, may lead to prolongation of health and life. Diagnostic service of the type described probably can be financed only by the larger industries. However, if a similar plan were adopted by a relatively small group of major industries, the combined studies eventually available would add materially to the present meager information of the cause and prevention of degenerative disease. If a unified method of examination was established in each of such industrial departments of preventive medicine, statistical information could be collected and analyzed through a central organization whose sole function would be the scientific utilization of the data obtained. By establishing a definite plan for long continued study, the relative significance of various factors could be determined with reasonable certainty. The suggested approach would provide for intensive study of large groups throughout the active years of life and make possible intelligent comparisons of the incidence of disease and the duration of life in those who carried out corrective measures, as contrasted with the control group of those who failed to do so.

The problem of obtaining satisfactory diagnostic service for that major portion of the population who are forced to consider cost is unsolved. Sacrifices will

be made to obtain every diagnostic aid when severe illness is present, but during apparent health, if examined at all, most of this class must be satisfied with a study no more thorough, in the main, than a life insurance examination. Too often, physicians have regarded the examination of the apparently healthy as somewhat of a bore, and this attitude unquestionably has contributed justly enough to the layman's criticism of the medical profession. The difficulties attendant on examinations of the apparently healthy are greater than in any field of medicine, for deviations from the normal may be so slight that correct interpretation is extremely difficult. It is not surprising that intelligent laymen are dissatisfied and constantly plead for more adequate diagnostic service. Lack of centralized medical facilities, with consequent multiplication of overhead cost, contributes materially to this problem. I believe that if organized medicine is willing to apply the principles of combined effort and reduced overhead, used so successfully by industry, much more efficient diagnostic service can be given.

Organized medicine has promoted and is advocating periodic examinations of the apparently healthy by the family physician. The movement is of undoubted value, but every thinking physician must admit that the cost of special studies that are needed to complete properly many such examinations has been an insurmountable barrier to adequate service and, if organized medicine is to deal successfully with the prevention of chronic disease, this disadvantage must be corrected. Any plan which would (1) make available all facilities of medical science to every patient at a cost at which unnecessary overhead has been reduced to a minimum, (2) leave undisturbed the personal relationship between physician and patient, (3) maintain the stimulus for individual effort by the physician and (4) provide for the scientific utilization of individual records should deserve serious consideration and not be regarded hastily as idealistic and unattainable. It is believed that this fourfold goal can be achieved through the following plan:

Under the sponsorship of organized medicine, health examinations would be made by the family physician using uniform record sheets so that necessary statistical information would not be overlooked. A minimum predetermined routine for such examinations would be completed invariably. The fee for this basic examination for all paying patients should be set by the examining physician. Indigent and part pay patients also should be allowed free choice of their physician who, instead of giving his services unrecompensed, at free dispensaries, would be paid a minimum fee determined by the medical society and paid from funds provided by health insurance or industry or from state funds appropriated for the purpose. Under the sponsorship and control of the medical society a diagnostic center should be established which would provide every type of laboratory procedure and facilities for examinations requiring elaborate or unusual equipment. Under the management of the medical society, technicians and laboratory workers would be employed. All laboratory work would be supervised and directed by clinical pathologists, on a fee or salary basis, as deemed advisable by the directing board of the medical society. Every physician then, who required special laboratory studies, would be able to send his patient to the diagnostic center where, with minimum overhead, the work could be done at a charge determined by organized medicine, according to the patient's means. Necessary special consultant examinations would be requested by the family physician, who could select the consultant in accordance with his judgment and the desire of his patient. Such examinations could be made as at present, using individual office or hospital facilities, in which case the fee would be determined and collected by the consultant. However, the consultant would be free to make his examination at the diagnostic center, where all special facilities would be available. In the latter case the fee, based on the patient's means, should be set by the medical society in cooperation with the group of specialists concerned. A portion of this fee would be retained to cover overhead cost of facilities used, while the rest would go to the consultant for his services. Although the family physician would have complete freedom of choice in consultants, the facilities of the diagnostic center should be available only to consultants who have fulfilled requirements specified by the medical society, or whose qualifications have been approved by the local members of the specialty concerned. Organized medicine would function for diagnostic clinics in the manner suggested by Harris [1] for the broader field of therapeutic medicine. The final correlation of data and advice, and the correction of defects would rest with the family physician, about whom the entire program is built.

The plan might be put into immediate effect in a given community through the cooperation of existing hospitals and laboratories until the establishment of a diagnostic center seemed feasible. Such a plan would maintain undisturbed the relationship between the family physician and his patient. The physician's material success would be dependent entirely on ability and individual effort. Organized medicine would place all diagnostic facilities at the command of every physician, so that no material handicap would prevent that type of diagnostic service which the public is demanding ever more insistently.

For the study of chronic disease, as has been intimated, centralization of records is essential. Records of any one individual are of little value if scattered in a dozen different places. The centralization in the American Actuarial Society of data from life insurance examinations has resulted in knowledge that otherwise never would have been obtained. Duplicate copies of all health examinations made by the family physician should be deposited in a central record bureau together with copies of laboratory reports and of opinions of consultants. Records of operative and postmortem observations supplied by the hospitals would add the final chapter to make possible a study of inestimable value. Under adequate control, access to individual records would be given only at the request of the patient concerned, so the possible objection that centralization of records would violate professional confidence is not sound. Records would be available no more readily than are those in hospitals at the present time. Previous physical observations would be available always, duplication of studies avoided, and medical information would not be lost even though personal records of physicians who previously had seen the patient could no longer be obtained directly.

If a plan of this general character is fundamentally sound, as I believe it to be, adoption throughout the entire country should be the ultimate goal. In each county a central bureau would be entrusted with the local records. Records of individuals who subse-

1. Harris, M. L.: Medicine Under Siege, New York State J. Med. 30: 823 (July 15) 1930.

quently moved to another community could be transferred to the appropriate locality. Finally, after death the entire medical history could be reviewed and the progressive changes in chronic disease studied by physicians at large. Purely medical functions and problems would remain strictly in the control of the medical profession. Centralization of records and statistical analyses are appropriately a function of local and federal health departments and probably could be undertaken best under the jurisdiction of the United States Public Health Service.

It is granted that, if such a plan should be adopted, some physicians would fail to cooperate and that some records would be relatively more accurate than others. Nevertheless, the extensive study of large groups made possible would eliminate individual inaccuracies, so the collective result would be fundamentally sound.

Reflecting the general lay demand, industrial leaders have attempted to provide medical service for employees which, almost without exception, has been concerned with treatment of the sick. In striking contrast, an industrial department of preventive medicine supports rather than harms the family physician. An industrial approach to the study of chronic disease through centralization of records obtained in the manner described would be a distinct contribution. A similar study made available from the centralized records of general comprehensive periodic examinations over a period of years would approach the ideal. Through some modification of the plan suggested, a service would be provided, at least in the field of diagnosis, more satisfactory, I believe, than could be obtained in any other way. Any industry, no matter how small, would have the economic benefit of a department of preventive medicine by arranging through the local medical society for periodic examinations of its employees. The public would have all the diagnostic facilities of medical science at a minimum cost. Thus organized, medicine would provide a better diagnostic service, would give the public the economic benefit of the reduced overhead resulting from group practice and still would retain that individual relationship between physician and patient which always has been considered fundamental. Organized medicine, if willing to make a cooperative effort, I believe would answer irrefutably the growing demand for state control of medical practice.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. FITZ AND SQUIER

Dr. James M. Anders, Philadelphia: The paper of Dr. Fitz places proper emphasis on industrial hygiene in its relation to the medical practitioner. Formerly the physician concerned himself with medical treatment only of industrial diseases, but in recent years, chiefly with hygienic and preventive considerations. Employers are giving careful consideration to their employees from the standpoints of sanitation, comfort and recreation. They not only employ physicians to supervise the health of the human machine but permit them to make detailed inquiry as to the nature of the work of each employee and of the conditions under which he is compelled to work. On the other hand, nothing in the nature of organized effort to promote the physical welfare of physicians had been undertaken until a quite recent date. As pointed out by Dr. Fitz, physicians are peculiarly exposed to health hazards—the older physicians being especially prone to vascular disease, while the younger physicians are unduly exposed to the dangers of acute infections. The needed supervision of the health of the young practitioner should begin with his entrance into the medical school of his choice and should be conducted after the manner indicated by Dr. Fitz in his presentation. It is indeed well for the student to learn to what health risks he will be exposed during his professional career, and also how to avoid them. Such information, if heeded, will tend to overcome the proverbial indifference of the physician, at a later period, to his health. There is nothing of higher importance than good housekeeping conditions and good food for undergraduate students and hospital interns. There should also be opportunity for healthful recreation. Medical men who have had considerable experience in treating middle-aged and older physicians for chronic vascular lesions need not be told how discouraging the results obtainable usually are. My plan for a number of years has been to recommend for this class of patients periodic health examinations as the best method of applying the principles of industrial hygiene. It must, however, be confessed that the plan does not always work out satisfactorily.

Dr. Joseph W. Mountin, Washington, D. C.: The so-called degenerative diseases overshadow acute infections as causes of death and there is reason to believe that they are on the increase. Comparatively little is known about the causative factors and even less about the early manifestations, or what might be termed subclinical course. The plan for studying the early manifestations of disease suggested by Dr. Squier has distinct research possibilities. However, I question whether it should be launched in the extensive and rather loose manner that has been outlined. The data will probably be of much greater value if the project is set up as a definite piece of coordinated research and if participation is limited to organizations equipped with personnel and funds to carry on the observations over a number of years.

Dr. Otto P. Geier, Cincinnati: The paper of Dr. Squier is very useful in its suggestions and yet dangerous in its possibilities of interpretation. I know of few companies in the country that have the optimism to do what his particular corporation is willing to have him do. Whereas the average industry is spending $5 or $10 per capita, at the maximum, for health work, the corporation he represents is probably spending ten or twenty times what the average corporation is willing to spend. However, that need not discourage him or other industrial optimists who wish to carry on this wonderful research work. But does it not lead to the conclusion that work of this kind, if it is to be done, must have funds from outside the industry for that purpose? It has been my thought for many years that it is unfortunate that too much of our research is confined within the walls of colleges and laboratories and that not enough is done within the walls of industry. Dr. Squier has mentioned the problem of early diagnosis and early symptomatology. Until the profession at large learns that only within the walls of industry is it really going to know early symptomatology, until it presses for money for research within the walls of industry, progress in the development of early diagnosis based on early symptomatology will be slow. This section has the responsibility in this particular problem of calling the attention of the profession at large, the public at large, and those who are giving great sums of money for research, to the fact that much of it should be done within the walls of industry and that the particular industry in which it is done should not be called on to pay for that research.

Is Bacteriophagy a General Phenomenon?—Is the phenomenon of bacteriophagy limited to the dysentery bacillus? I have been able to establish the fact that bacteriophagy is a general phenomenon. It has been possible to isolate races of bacteriophage leading to the dissolution of bacteria belonging to very varied species, such as *Eberthella dysenteriae, paradysenteriae, typhi, paratyphi* and *sanguinaria; Escherichia coli; Salmonella schotmülleri, pullora, suipestifer* and *typhi-murium; Proteus vulgaris; Vibrio comma; Pasteurella pestis* and *bovis; Corynbacterium diphtheriae,* and *B. subtilis.* Other investigators have isolated bacteriophage races active with staphylococci, streptococci and pneumococci, and even with bacteria parasitic in plants, such as *Rhizobium radicicolum, B. tumefaciens* and *B. carotovorus.* The diversity of the bacteria attacked warrants the belief that the phenomenon is, indeed, general, perhaps involving all bacteria.—d'Herelle, Felix: Bacteriophagy and Recovery from Infectious Diseases, *Canad. M. A. J.*, May, 1931.

OTITIS MEDIA AS A PEDIATRICIAN SEES IT *

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Why should a pediatrician, who is a general practitioner to the young, presume to discuss a subject that might seem to belong to a regional specialist? The answer is evident. In the first place, it is because he is a general practitioner and must therefore be usefully informed on one of the most common and most important diseases of childhood. Furthermore, he and the general practitioner, alone, are in a strategic position to acquire extensive and practical knowledge of the developmental period of middle ear disease and a resulting ability to prognosticate with some assurance in an early questionable case. The otologist commonly sees only the ear in the case presented to him for surgical judgment or treatment. The pediatrician, as a rule, sees the patient for the underlying throat infection before the ear is involved. If he is a good pediatrician he has long ago found his otoscope as indispensable as his stethoscope and in some cases even more so. By examining all ears in as routine a fashion as he does the chest, he becomes familiar with the normal and with the abnormal through all the stages from the simple redness and congestion, which accompany nearly all nasopharyngeal infections, to the bulging ear that cries for surgical relief. Finally, he is in a position that the otologist cannot occupy—that of being able to size up the whole clinical setting, of which the otitis may be only a very minor part.

On the other hand, in the fully developed otitis and in all complications the otologist has a technical knowledge and skill that the practitioner does not possess. How shall responsibility be distributed most advantageously in dealing with this always potentially serious disease? Manifestly, the practitioner must acquire the ability to examine and to evaluate with reasonable accuracy an ordinary otitis media. He will naturally treat it so long as he feels sure that surgical measures are not indicated. If the drum has ruptured and there is free discharge, the experienced pediatrician will not worry because of that fact. Rather, he will be happy to be able to spare the child the pain and psychic trauma of a paracentesis, without adding to the hazard. If a paracentesis seems indicated I have myself always called in an otologist, both as a matter of protection in case of a subsequent serious complication and to give the parents the benefit and the solace of a specialist, who is rightly assumed to be able to do the job better than I can. There is the further advantage, in this connection, of enabling one to observe and evaluate the methods and results of treatment of various otologists whose practices differ so widely.

I see, however, no objection to the pediatrician doing his own paracentesis, especially among people of limited means to whom a consultant might mean an added hardship, provided the pediatrician is really competent to do the thing right. In other words, I do not believe that pediatric cerebration and skill are on so low a plane that they cannot cope with a simple operation of which every otologist is assumed to be master. In my own experience, I have been impressed with the fact that otologic paracenteses are not all alike—some practically never require repetition, while it is regularly necessary in others.

The question always comes up in hospital practice with interns. I am perfectly willing that interns in a children's hospital shall learn to do, and shall do, ordinary paracentesis, provided it is done under such control that in every individual instance it is done with adequate efficiency. To my mind, however, it is pedagogically unsound to let an intern think, as seems to be permitted in some places, that an otitis is so minor an affair that any one can do a paracentesis intuitively, or that children who have no choice in the matter and often "no language but a cry" are good material for practice and experience. Let his own child later develop an otitis media and the best otologist is none too good.

In all of the complications that may accompany or follow an otitis media, an otologist must be called in as a matter of course. If there is a persistent high fever, however, or other symptoms that may have other than an aural basis, there must be full and complete cooperation between otologist and pediatrician, and, when confronted by a possible sinus thrombosis or meningitis or brain abscess, the combined wisdom and judgment and experience of both leave more to be desired than in almost any other situation in medicine.

Limited time permits only a few things to be brought into relief and also necessitates a rather more dogmatic statement than may be warranted by all the facts.

The outstanding symptom of an otitis media in an older child is pain in the ear, commonly intermittent and lancinating, with or without tenderness on pressure over the tragus. If the pressure is excessive, it nearly always means a furuncle of the external auditory canal, not an otitis. The outstanding symptom in an infant is great restlessness and intermittent crying out, especially when in the recumbent position, and therefore more often at night. Mothers frequently state that they "held the baby up all night as the only means of getting relief." It is doubtless the same relief that comes from elevating the hand in case of a felon. There is, ordinarily, tenderness over the tragus. Pain is not a reliable prognostic symptom, per se, except that if it persists in spite of the use of 5 per cent phenol in glycerin it means a persistent, usually progressive, condition that will probably lead to spontaneous rupture or will require paracentesis.

The otologist commonly sees only the ear in which the symptoms persist in spite of ear drops. He cannot, therefore, be expected to know as decisively as does the pediatrician the marvelous analgesic properties of ear drops. No relief can be expected from the few drops that are commonly instilled, unless explicit directions are given that the whole canal must be filled while the child is lying on the opposite side. Equally explicit must be the directions that if there is no relief the physician must be notified, and that if there is relief the drops must not be continued indefinitely with the erroneous idea that they have prophylactic or curative value. Fever is not a dependable symptom. It is nearly always present to some degree, may be quite high, even very high; but it is often impossible to exclude some other source, such as the throat infection of which it is a complication. One of the important functions of the pediatrician is to inform the otologist that a throat infection, with or without an otitis, or any other demonstrable focus of infection may lead to a constant high temperature, not infrequently of many weeks' duration. Temporary deafness is a disturbing

* Read before the Section on Diseases of Children at the Eighty-Second Annual Session of the American Medical Association, Philadelphia, June 10, 1931.

but not an alarming symptom. Nystagmus and involvement of the sixth or seventh nerve call for serious consultation. Facial paralysis is rare in acute otitis; it occurs more frequently in chronic otorrhea, in which it always leads to a well founded suspicion of tuberculous etiology.

Definite orientation must come from examination, and in recent years this has been greatly facilitated, at least for the pediatrician, by the advent of the electrical otoscope. Redness of the drum and swelling along and above the handle of the malleus call for alleviation with drops and heat, if there is pain, but not for surgical intervention. The light reflex has never seemed to me to furnish any useful indicational information. Blebs or blisters on the drum are an evidence of myringitis or external otitis and are not indicative of severe otitis media but rather of the reverse. The common statement that they are due to influenzal infection requires a definition of the term influenza. They rupture or shrivel up quickly and need no treatment.

The indication for surgical intervention lies in the degree and persistence of bulging of the drum above and about the handle of the malleus, with or without fever that is not due to some other cause. The practical measure of bulging is the short process, the diagnostic rôle of which cannot be overemphasized. So long as it is in evidence even as a tiny white spot, there is rarely an indication for immediate paracentesis. When it is gone, the indication commonly exists but not always. An acutely bulging drum may subside spontaneously, but if it persists and there is a dull, dark red, lusterless color, with or without much pain or fever, it should be incised. If, in addition, the bulging appears in the lower half of the drum as a sausage-shaped forward continuation of the posterior portion of the initial bulge, the indication for incision is clear. The same is true of mastoid tenderness and of imperfect drainage after spontaneous rupture of the drum. I have never been able to satisfy myself that an ear that ruptures spontaneously and discharges freely fares any worse than one that is incised early, and I am in much less feverish haste to have something done than I was years ago. There is, ever so often, a recrudescence of the idea that ears should be allowed to rupture spontaneously, at least in infancy, and the indication for and optimal time of intervention, if indicated, is not yet a completely closed chapter. I have, at least, no sympathy whatever with the idea one often hears expressed: "We shall do no harm, so better incise the drum early, even if we get nothing." If the drum is to be incised, it should be done with a sweeping incision of some length, not with a puncture.

With the complications, one enters on hazy, difficult and fateful territory. In infants with undeveloped mastoid cells the antrum alone is involved in mastoid disease. This can be looked on as an accompaniment rather than a complication of otitis media, unless the antrum becomes obstructed with possible resulting bone necrosis, subperiosteal abscess or (and) systemic manifestations. In marantic or undernourished infants, one sometimes sees the patient for the first time after a by no means stormy or painful course, for the single reason that "the ear sticks out straight from the head," as the mother puts it, as the result of a postauricular subperiosteal abscess. In recent years the mastoid antrum without external evidence of involvement but with otoscopic evidence of "sagging of the posterior wall" of the canal has been advanced as a common cause or initiator of severe gastro-intestinal symptoms and intoxications, with striking and fairly constant therapeutic results from anthrotomy. That some, including myself, have failed to get that therapeutic result may be the result, in part, of timidity based on *a priori* incredulity, or of a strange vagary of that ever varying and fickle thing we call the genius epidemicus of disease, which may have led to a peculiar heaping of favorably reacting cases in one locality or another. It would, however, seem a significant fact that in evident clinical mastoid involvement such distant pathologic symptoms do not occur any more than in any other analogous local infection. A mastoid involvement of more than 50 per cent in marantic infants who came to autopsy has long been known but has commonly been interpreted rather as an effect or a coincidence than as a cause of enteral symptoms or pathologic changes. The whole question apparently needs the mollifying effect of time and added experience.

In the infant, tenderness and swelling can be expected only over the upper part of the mastoid. In the older child, it may appear in any part of the mastoid and may even extend to the zygoma in front of the ear. Tenderness over the tip of the mastoid obviously has more significance than over the antrum. Pain in the temple is a warning of involvement of the fifth nerve. Mastoid tenderness, even with swelling, redness and edema occurring before rupture or paracentesis of the drum, is not an indication for mastoidectomy unless it persists unduly after free drainage is established or unless other serious symptoms supervene. The same is true of early tenderness in acute otitis with free discharge following early rupture or paracentesis. Mastoid symptoms coming later usually call for intervention, especially if there is profuse and unduly prolonged discharge with or without much fever. In evident mastoid disease, notably that due to a streptococcus, it is often very hard to know when to operate. For fear of opening new avenues of infection, it is desirable to wait until there is a sort of walling off, yet waiting too long may be followed by deep regret. It is doubtless safer to err on the side of operation. A rising leukocyte count may tip the scales in that direction. When to do a mastoidectomy in subacute or chronic otorrhea, in order to secure more perfect drainage of the middle ear and to safeguard hearing, ought not, it seems to me, to be stated dogmatically in terms of weeks or months but should be judiciously weighed in each case.

While a clinical mastoiditis, with or without mastoidectomy, nearly always precedes the much rarer but far more serious intracranial complications that may occur with otitis media, its absence must not be assumed to exclude the possibility of such complications. A peculiar interest attaches to the diagnosis of sinus thrombosis. It is a serious complication with a high mortality under any circumstances and with an all but hopeless prognosis without operation. It has a striking symptomatology that may, however, be duplicated by other causes. The otologist and the pediatrician are here on equal ground, but each is on an island by himself. In the presence of a mastoid with persistent, widely fluctuating, septic temperature, the otologist naturally sees a sinus thrombosis and fears the result of inaction. At most, he will question the pediatrician more confidently or more impatiently, as the case may be, than is warranted by experience, as to whether he sees any other source of such a temperature. The pediatrician often enough can only say that he does not

know but that in his experience he sees many more such temperatures that are not due to a sinus thrombosis, than are.

Deliberation often proceeds along parallel lines until their paths meet in a common decision that it is wiser to take a lesser chance and to explore. The decision is usually hastened by the advent of repeated chills and sweats and a positive blood culture. I have, I think, felt a thrombosed jugular vein only once. Compression of the opposite jugular vein with simultaneous determination of spinal fluid pressure may, at times, be of diagnostic value, especially in bilateral mastoid involvement, but may not be wholly free from danger. Swelling and edema of the eye, indicating cavernous sinus involvement, mean that the diagnosis has been made too late to be of any value to the patient.

In meningitis there is an even more serious complication. The diagnostic criteria are those of any purulent meningitis: neck rigidity, headache, vomiting, high fever, increased reflexes and rigidity. A sustained ankle clonus has seemed to me to be especially valuable. Lumbar puncture alone tells us the real state of affairs. A greatly increased cell count, always with positive globulin reactions and usually with much lessened sugar content and the presence of organisms, makes a positive diagnosis of a true meningitis. Without organisms, even with a cell count of thousands, one can reasonably hope that there is only an irritation or a sterile meningitis that may be relieved by removal of an encroaching focus. With or without organisms, an operation would seem to be indicated, with little hope in the one case and a fair hope in the other. About all that the pediatrician can do by this time is to hope and pray and to lend moral support and encouragement to the otologist.

Brain abscess is fortunately rare except in a large hospital experience. The diagnosis is probable in the appropriate clinical setting, with early high and later low, normal or subnormal temperature, headache, stupor and vomiting, and it becomes certain when focal paralysis and choked disks appear. The pediatrician can usually gracefully withdraw with honor about this time, in favor of a neurologist or a brain surgeon, but I am inclined to think that the whole matter is best left in the hands of a competent otologist. It is these serious complications that bring home to the pediatrician one of his most important functions—to choose an otologist at the start who can see the thing through, no matter what comes up.

There is, finally, a matter in which the pediatrician is more interested, and with which he is more conversant, than is the otologist. I refer to the psychologic aspects of pain in children. It is of course axiomatic that no child should be hurt, unless necessary, and no oftener than necessary. This brings up the question of anesthesia in paracentesis. In infants, anesthesia is clearly not indicated. In older children, in whom memory is better developed, it is probably better to give an anesthetic to nervous, high-strung, unmanageable individuals, especially if the trouble is bilateral or requires prolonged examinations and careful technic. In the great majority of children who are old enough to be reasoned with, an anesthetic is not necessary and therefore, to my mind, undesirable.

A second pediatric axiom must, however, be recognized: No child old enough to understand what is said should ever be hurt without being told frankly that he is going to be hurt, and just when he is going to be hurt. A child will at once forget and forgive a pain of which he has been duly and honestly forewarned; he will never do either if he has been deceived. I emphasize this point because the occasional otologist does not seem to appreciate this childish reaction to psychic trauma and insult. Of many instances, one stands out especially in my memory. An otologist approached a child of about 6 or 7 years with a paracentesis knife concealed in his hand, and told him that he would not hurt him, even assured him that he would not "cut" his ear, the very thing the child dreaded. As the otologist lanced the drum, the child flared up: "You are a liar. You lied to me. I never want you to come into this house again." And he didn't.

An anesthetic is not a wholly pleasant thing and perhaps not even wholly safe. I have myself taken both ether and gas and have had a paracentesis done without either, and I would much prefer the momentary pain to the prolonged anesthetic.

A single pain is well tolerated if properly approached; it is the repetition which is hard for an unreasoning child to bear and which is responsible for nervousness in many a child after an otitis. Otologists differ widely in their postoperative care. In my own experience with many of them, I have been happiest, and so have the patient and his family, with those who have done least. It is the exceptional ear, in practice, that will not get along simply with a change of the absorbent cotton when saturated, plus external cleansing and a little dry wiping. Meticulous aural toilet and frequent, prolonged and useless examinations, sometimes daily, are, in my experience, wholly unnecessary and therefore a meddlesome interference with normal healing. Irrigation, except for an occasional clearcut indication, I would consider contraindicated, both therapeutically and psychologically. And I am perfectly willing as a pediatrician to be classed as "an eighteenth century practitioner" by a recent otologic (not pediatric) writer, who advocates frequent dry-wipe cleaning with a specially devised cotton swab "inserted in the ear canal down to the drum," and the insertion of a swab that "*must touch the drum*" (italics his) and "be changed as often as it is half filled with discharge, whether five minutes or five hours."

All that I have said applies chiefly to acute otitis media as seen in private practice. Chronic, neglected otorrhea belongs in another chapter, as does also, to some extent, the child in a hospital ward and especially in an infant ward.

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ABSTRACT OF DISCUSSION

DR. M. F. ARBUCKLE, St. Louis: The symptoms of acute otitis media, in infants and young children, which should direct attention to the ear are fever, restlessness, continued crying, picking at the ear, vomiting, lack of appetite, and, occasionally, convulsions. In older children, pain usually is complained of. The course of otitis media in many instances may be profoundly influenced, or changed entirely, if it is recognized in the early stages. For this reason it is of the greatest importance that proper treatment be given and wrong treatment avoided. The reason for this statement is that I have seen infection introduced into ears, or caused to spread into the mastoid, by treatment. I think it is true, as Dr. Brennemann has suggested, that many times a drum is incised and suppuration follows, whereas if it had not been incised the infection would have cleared up without rupture. I think the indiscriminate use of irrigations and solution of hydrogen dioxide in the ears is a dangerous practice. If the indications for incision are present, as Dr. Brennemann has pointed out, a proper incision should be made under anesthesia, or, in the case of babies, at least analgesia. Puncture does not afford adequate drainage, if indeed the wound remains open. If the patient has not been anesthetized, the chances are

much against the proper performance of the operation. To me there is no suffering to be compared with that caused by paracentesis. The noise alone, when the knife strikes the drum, is unbearable and I am sure no one can avoid jumping away because of the pain, with resultant inadequate incision. Paracentesis, especially in children, is by no means without danger. On several occasions I have seen the jugular bulb accidently opened during an attempted myringotomy. There are numerous reports in the literature of injury to the facial nerve, as well as the inner wall of the middle ear, with fatal meningitis following.

DR. EUGENE ROSAMOND, Memphis, Tenn.: To Dr. Brennemann's symptomatology of restlessness and intermittent crying out, discomfort in the recumbent position, tenderness over the tragus and fever, I would add one symptom frequently present that has seemed to me pathognomonic; namely, a reflex hacking cough, followed by a whining cry or facial expression of pain. Except in infancy, I have, since the advent of the closed automobile, usually carried my patients to the office, where nitrous oxide-oxygen is administered to a stage of deep analgesia and the paracentesis may be done quietly and efficiently. Recollection of pain seems to be abolished by this primary anesthesia, and the aeration of the lung seems to be beneficial rather than detrimental to moist conditions in the chest. The child's confidence is never lost by this procedure. In the mastoiditis of infancy the responsibility of the pediatrician does not end with the finding of an abnormal drum membrane. He should strive to perfect his knowledge as a medically minded otologist just as the otologist should study to be a surgically minded internist. The pediatrician knowns that pain in infancy cannot with certainty be localized, that pain on pressure is not reliable in infancy, that postauricular edema may be due to adenitis, furunculosis, trauma to the canal or seepage through the normal sutures. He knows the significance of fever and of the amount and character of the discharge, the significance of the blood counts and the small help that roentgen examination offers. He knows much about the appearance and bulging of the drum membrane and the change in appearance that anhydremia may bring. Finally, he is perhaps the better judge in interpreting the constitutional trend which alone may serve as the best guide as to when to operate. In all measures that pertain to the surgical relief of the infection and the conservation of hearing the otologist is, of course, supreme.

DR. G. J. FELDSTEIN, Pittsburgh: Many cases of otitis media are misdiagnosed from failure first to cleanse properly the ear before examination; I see frequently cases in which it is said that the ears are normal but in which the canal is packed with wax. This is especially true in the new-born in whom the canal usually contains a large amount of wax, débris and lanugo hair. A false diagnosis of suppurative otitis media may be made when there is a film overlying the tympanum. Various methods may be used to cleanse the ear; the most efficient is the syringe, which should be part of the equipment of the pediatrician. When this fails to clear the ear, the use of toothpicks or metal applicators wound with cotton and dipped in liquid petrolatum, the excess squeezed out, will aid. Large pieces of wax or film may be removed by means of fine, blunt-pointed forceps used through the speculum or with a hook. Great care should be used to avoid injuring the canal or tympanum; one frequently sees evidence of such traumatism from awkward manipulation. In order to get a good look at the short process and Shrapnell's membrane, especially in the newborn, in whom the canal is as a rule crooked and the tympanum horizontal or almost so, it is essential to look upward with the speculum. In doing a paracentesis, if one makes the incision too high, he is apt to do damage to or dislocate the ossicles. I find it a good rule to be sure always to look up in examination and to look down in doing the ordinary paracentesis. Otitis media in the new-born is often overlooked and not given due consideration as a cause of fever. An interesting case of this kind was seen in an infant, aged 5 days, with a fever of three days' duration, who had had projectile vomiting during that period. The first impression was that of an obstruction in the gastro-intestinal tract, possibly a hypertrophic pyloric stenosis with an onset earlier than usual. Roentgen examination, lack of visible peristalsis or tumor and the absence of obstipation ruled out obstruction. A bulging left ear drum was found, and soon after paracentesis was done the temperature dropped to normal, the vomiting ceased and the infant was perfectly well. In many cases of otitis media in children, one finds vomiting as a marked symptom.

DR. J. M. BRADY, St. Louis: In my opinion, the baby should be placed on the table with his head on the side. The nurse presses down on the head. The mother or some other assistant holds down the buttocks. The examining physician stands on one side and looks in the ear, then turns and examines the other. To me this has been invaluable. This method is used, I know, by the physicians at the Children's Hospital. In regard to being able to get a look at the drum, I have a scheme that saves time. The ordinary specula which come with the electrical otoscopes are unsatisfactory for the simple reason that the extremity, the lumen, is so wide that when one introduces it in the ear canal it crowds down the cerumen on the drum and one cannot see the drum. Three years ago I brought with me from Vienna a set of specula made by Dr. Alexander. These are long and the smallest one is so small that it is not larger than a probe, but it still has a lumen. With this small speculum one can get around the wax, push it to one side and see the drum, massage the wax to one side, and with a larger speculum get a good view of the whole drum. This has been invaluable. If this is unsuccessful, in my opinion the best and quickest way to get a view of the drum is by means of an extremely fine probe that enables one to move the wax to one side and allows one to view the drum. I would say it does not happen once a month that I have to syringe an ear in order to get a view of the drum. A great deal has been said about restlessness, pain, and all that sort of thing. Time after time I have looked at an ear and there have been no symptoms at all of pain, no fever, and still there was a bulging drum. That is common. I cannot help imagining that Dr. Brennemann has frequently noticed that. Every ear should be looked at before one prescribes for the baby, the same as one looks at throats. Dr. Brennemann mentioned, and I would like to emphasize, the fact that swelling over the mastoid due to edema the first few days of an otitis media does not mean that the otologist must be called. That requires expectant treatment. I would like to emphasize that a mastoid operation is not required just because an ear has discharged for three weeks. Frequently a few exposures of roentgen rays over the mastoid will promptly cause a cessation of the discharge.

DR. JOSEPH BRENNEMANN, Chicago: As to the pain of a paracentesis, I have had that done on myself. I frankly confess I was a little disappointed. If the process in the ear is pretty well along, the pain is commonly not so intense. I think all have experienced that, just as the eardrum is lanced, the baby is perfectly quiet for a moment. He is excited anyway and expects something terrible to happen to him, and just like a soldier in battle, he doesn't know he has been hit until after it is over. Dr. Arbuckle spoke of one symptom that I would question. I don't think babies pick or pull at their ears any more than they pick at a boil. Dr. Rosamond mentioned an important symptom. A common thing for me to ask the mother is: "Does the child cry when he coughs?" As to cleaning out the ear, it always irritates me a little when an otologist indulges in what I call "meticulous oral toilet" with the child crying all the time, when a good pediatrician can take one look and tell what the condition of the ear is. I think that most pediatricians after a while develop a sort of periscopic vision; I think we can look around the wax. I think Dr. Feldstein omitted the one most important single instrument in the whole matter of cleaning out ears. I think both wiping and washing the ear are most unpleasant. Once in a great while I tell an intern, "You cannot get that out unless it is washed out," but I don't want the rest washed out because it is extremely unpleasant and startling to have this rush of something coming down suddenly in the ear. To my mind, the one desirable instrument that covers practically every need in cleaning the canal except the type in which the wax is impacted tightly against the drum is one of the little ear spoons with flexible handles with which one can reach down through the speculum and gently scrape the sides of the canal. As to the method of examining children, they are often perfectly willing to stand in front of us or sit on the mother's lap, but when one has them lie on the table they begin to cry and struggle and think something terrible is going to happen.

THE PROPHYLAXIS OF RINGWORM OF THE FEET

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At present, no one doubts the increase in the incidence of ringworm of the feet since the war. It is also agreed that this increasing incidence is due to the popularity of all forms of sports demanding common dressing rooms, runways and shower baths. The estimated frequency ranges from 90 per cent in male college students indulging in athletics to 50 per cent in the general adult population. In children of high school age the incidence has been estimated at about 25 to 50 per cent. The prevention of this disease has therefore assumed major importance.

It is now generally recognized that ringworm of the feet is, in many instances, one of the most intractable diseases. Recurrences are extremely common under conditions of increased heat and moisture. Dissemination of the organisms to other parts of the body has frequently brought about long periods of illness and suffering.

We report a method for the prophylaxis of ringworm of the feet which has proved satisfactory as judged by fungicidal tests in the laboratory and from practical experience in the high schools of the city of Buffalo and in many other public and industrial institutions.

About a year ago it was suggested to one of us (E. D. O.) that it might be worth while to test out the fungicidal activity of sodium hypochlorite, the common, cheap and harmless bactericide used in most city water supplies. We at once tested out the fungicidal activity of this chemical to five common types of fungi found on the feet of persons suffering from ringworm. Search of the literature did not reveal previous fungicidal tests with this chemical. This seems odd in view of its known bactericidal properties and of its use in surgical solution of chlorinated soda.

TECHNIC OF FUNGICIDAL TESTS

The general plan was the same as that employed by Schamberg and Kolmer[1] and by Kingery and Adkisson.[2] There were a few minor changes. Culture tubes instead of petri dishes were used because of the lessened liability of contamination with the former. Sabouraud's dextrose broth was substituted for Sabouraud's dextrose agar in order to preclude the possibility of the sodium hypochlorite solution remaining in contact with the fungus organism longer than was indicated in the test. Shaking of the final broth culture of the organism, after the required exposure to a water solution of sodium hypochlorite, insured washing off of the chemical from the organisms. This would have been impossible with the use of dextrose agar.

Fresh cultures of the respective fungi were removed from Sabouraud's dextrose agar slants with sterile distilled water and shaken with glass beads until a dense homogeneous suspension was secured. With a sterile pipet, 0.5 cc. of the suspension of the organism was transferred to 5 cc. of sodium hypochlorite of required strength. After shaking for the required length of time indicated in the test, 0.5 cc. of this material was transferred to 10 cc. of Sabouraud's dextrose broth, which was agitated for thirty seconds, and

Results of Fungicidal Tests

Organism	Time	Percentage of Sodium Hypochlorite													Control
		0.001	0.001	0.005	0.01	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	
Trichophyton interdigitale	15 sec.	growth	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	Growth
	30 sec.	growth	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
	1 min.	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
	5 min.	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
Monilia pinoyi	15 sec.	growth	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	Growth
	30 sec.	growth	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
	1 min.	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
	5 min.	growth	growth	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
Trichophyton gypseum	15 sec.	.....	.....	.....	.....	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	Growth
	30 sec.	.....	.....	.....	.....	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
	1 min.	.....	.....	.....	.....	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
	5 min.	.....	.....	.....	.....	growth	growth	no growth	no growth	no growth	no growth	no growth	no growth	no growth	
Blastomycoides hominis (Ricksford and Gilchrist)	15 sec.	.....	.....	.....	.....	growth	growth	growth	growth	growth	growth	no growth	no growth	no growth	Growth
	30 sec.	.....	.....	.....	.....	growth	growth	growth	growth	growth	no growth	no growth	no growth	no growth	
	1 min.	.....	.....	.....	.....	growth	growth	growth	growth	growth	no growth	no growth	no growth	no growth	
	5 min.	.....	.....	.....	.....	growth	growth	growth	growth	growth	no growth	no growth	no growth	no growth	
Trichophyton roseaceum	15 sec.	.....	.....	.....	.....	growth	growth	growth	growth	growth	growth	growth	growth	no growth	Growth
	30 sec.	.....	.....	.....	.....	growth	growth	growth	growth	growth	growth	growth	no growth	no growth	
	1 min.	.....	.....	.....	.....	growth	growth	growth	growth	growth	growth	growth	no growth	no growth	
	5 min.	.....	.....	.....	.....	growth	growth	growth	growth	growth	growth	growth	no growth	no growth	

1. Schamberg, J. F., and Kolmer, J. A.: Studies in the Chemotherapy of Fungus Infections, Arch. Dermat. & Syph. **3**:746 (Dec.) 1922.
2. Kingery, L. B., and Adkisson, Alva: Certain Volatile Oils and Stearoptens as Fungicides, Arch. Dermat. & Syph. **17**:499 (April) 1928.

another 0.5 cc. was transferred to a second tube of 10 cc. of dextrose broth. Sterile pipets were used for each step in this procedure. Controls, with the use of distilled water in place of sodium hypochlorite, were run with each test. The culture tubes were then incubated for forty-eight hours and left at room temperature for four weeks for final reading. The results are tabulated in the accompanying table.

Fig. 1.—A rubber pan placed in the corridor leading to the shower baths.

Trichophyton interdigitale organisms were uniformly killed with 0.15 per cent sodium hypochlorite after fifteen seconds' exposure to the action of the chemical. The same was true with *Monilia pinoyi* and *Trichophyton gypseum*. *Blastomycoides immitis* required 0.4 per cent sodium hypochlorite before no growth was secured after fifteen seconds' exposure to the chemical. As might be expected from the work of Schamberg and Kolmer, and of Kingery and Adkisson, *Trichophyton rosaceum* was the most resistant organism, requiring 0.5 per cent strength of sodium hypochlorite before no growth was secured following fifteen seconds' exposure to the chemical. These tests were repeated with essentially the same results. It is evident from this experimental work that a solution of 0.5 per cent sodium hypochlorite should kill all the common fungi found in ringworm of the feet with exposure of fifteen seconds to these organisms in a watery suspension. Fresh moist deposits of ringworm organisms on the feet should therefore be killed with 0.5 per cent sodium hypochlorite, provided the organisms have not penetrated to the deeper cells in the horny layer of the epidermis.

CLINICAL TRIAL

With the foregoing experimental data at hand, the T. A. Patterson Laboratories supplied the Buffalo high schools, at cost, with sufficient rubber pans and sodium hypochlorite solution to carry out this method of prophylaxis for a period of one year. The company had a special rubber pan prepared whose inside measurements were 2 feet on a side. These pans were made of heavy rubber and weighed approximately 60 pounds. One pan was placed on the floor of the corridor between the dressing rooms and the shower baths and another pan was placed at a point past which all the pupils had to pass just before putting on their clothes. The pans were filled up to the 2 inch mark with 0.5 per cent sodium hypochlorite solution and this solution was changed every morning. Although the solution was never diminished to such an extent that a refill was necessary, it was evident that a large number of persons stepping in and out of the pan on the way to the shower bath might gradually deplete the solution. A slight, but not appreciable, dilution of the chemical occurred. In order to allow for this dilution and for a fair margin of error, we have recently recommended the use of 1 per cent sodium hypochlorite instead of 0.5 per cent solution. The accompanying illustrations are self explanatory. Attention is particularly called to figure 3, from a photograph taken in one of Buffalo's newest high schools. At the suggestion of the physical education department, a "well" was built in the tile floor, as shown in the illustration, the entire width of the corridor through which the pupils passed from the dressing rooms to the showers, swimming pool and gymnasium. They also passed through the "well" on the return to the dressing rooms. This seems to us an ideal arrangement, obviating the necessity of purchasing rubber pans.

RESULTS

Up to May 2, 1931, this method of prophylaxis has been employed in the Buffalo high schools for a period of from nine to twelve months. The physical directors of each school have been carefully advised regarding the method and the checking of results. All the complaints have been transmitted to the director of physical education of the Buffalo public schools. He has informed us that in former years a great many complaints were received and that many new cases of ringworm of the feet appeared each year among high

Fig. 2.—A rubber pan placed in the corridor leading to the dressing room.

school students. The director of physical education of the public schools of Buffalo reported that this year he had not received a single complaint from parents or pupils because of the appearance of ringworm of the feet. The various directors of the different schools have been well informed on the disease and have been unusually alert in the detection of new cases. We were happily surprised when none were reported for the entire year. In private practice we have noticed a drop in the incidence of new cases of ringworm of the feet in high school pupils of the city of Buffalo. Our records fail to show a single new case, although numerous ones have appeared from the surrounding towns.

So far as cure of the disease is concerned, we do not believe that 0.5 per cent solution hypochlorite or even 10 per cent sodium hypochlorite would be any more efficacious in curing an established case than any other methods employed at present in the treatment of this stubborn condition.

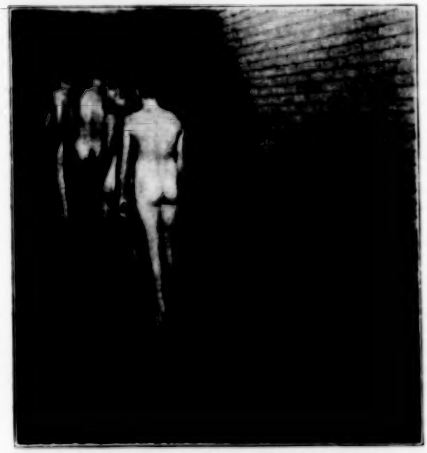

Fig. 3.—A "well" built in the floor of the corridor passing from the dressing room to the shower baths. Installation in the new East High School of Buffalo.

The use of sodium hypochlorite as a fungicide offers certain advantages over other chemicals. It is cheap and easily prepared. It does not stain, nor does it irritate in strengths as high as 2 per cent. Recently Gould [3] employed from 10 to 15 per cent sodium thiosulphate solution in the Albany Junior High School. He found the solution efficient in strengths as low as 3 per cent. From a chemical standpoint, there is only one minor objection to this chemical, and that is that the small amount of sodium hypochlorite already present in the city water supply unites with the sodium thiosulphate added to form sodium sulphate and sodium chloride. In view of the fact that an excess of sodium thiosulphate is added, this consideration makes little difference so far as the fungicidal action is concerned, but carrying of this chemical into the pool may have disastrous consequences because of the reduction of the sodium hypochlorite to sodium chloride. Higher percentages of sodium thiosulphate are required as a fungicide and the chemical is therefore much more expensive than sodium hypochlorite. This is an important item in large public institutions. We are at present engaged in carrying out fungicidal tests with sodium thiosulphate to determine the lowest percentage necessary for effective fungicidal action. Schamberg and Kolmer showed that sodium thiosulphate was not effective in strengths as high as 5 per cent with *Trichophyton rosaceum* but was fungicidal in dilutions as high as 3 per cent for *Microsporon audoini* and *Schorion schoenleinii*. We have just recently confirmed this finding in regard to *Trichophyton rosaceum*.

In reporting the experimental work with sodium hypochlorite as a fungicide and in our year's experience with it in the Buffalo high schools, we believe that an effective method of prophylaxis of ringworm of the feet has been developed but that an extended trial is necessary. A great deal depends on the cooperation of the department of physical education as well as of the pupils. If the method, as outlined, should prove to be generally efficacious, ways and means should be found to compel all pupils to pass through the fungicidal solution. The installation of permanent "wells" in the floors of runways and halls seems to us to be the ideal arrangement.

NOTE.—Since this paper was submitted for publication, all the pupils in the high schools of Buffalo have been rechecked for evidences of recent infection. No new instances of ringworm infection of the feet have appeared since the method of prophylaxis outlined was instituted.

471 Delaware Avenue.

3. Gould, W. L.: Ringworm of the Feet, J. A. M. A. **96**: 1300 (April 18) 1931.

CONGENITAL PYLORIC OBSTRUCTION

RECENT OBSERVATIONS *

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That there is some gastric and pyloric muscular spasm in every clinical case of pyloric stenosis, most authorities today agree. Opinions differ, however, as to how much of the vomiting is due to the spasm and how much is due to the tumor. Most authorities agree with Sauer's [1] views, expressed as follows: "The time and mode of the onset of the clinical symptoms, the course of the disease, and the not infrequent sudden cessation of the vomiting make the spasm element the decisive factor in the hypertrophic pyloric stenosis," and "The severity of the symptoms is dependent on the degree of spasm and the amount of the obstruction caused by the tumor."

In Elterich's [2] opinion the majority of writers attribute the disorder to an imbalance of the involuntary nervous system. Marine [3] and others [4] report that spontaneous involution of the cortex of the suprarenals occurs during the first two weeks of life and that the suprarenals undergo a distinct postnatal decrease in

* Read before the Section on Diseases of Children at the Eighty-Second Annual Session of the American Medical Association, Philadelphia, June 11, 1931.

1. Sauer, L. W.: Hypertrophic Pyloric Stenosis, Arch. Pediat. **41**: 145 (March) 1924.

2. Elterich, Theodore, Jr.: Pylorospasm, Atlantic M. J. **29**: 767 (Aug.) 1926.

3. Marine, David: Status Lymphaticus, Arch. Path. **5**: 661 (April) 1928.

4. Blymenau, F. B.: The Suprarenal Glands in Children, Diss., St. Petersburg, 1900. Scherl, O.: Ueber Nebennieren: Sekretkornchen-O den Gervicht, Arch. f. path. Anat. **192**: 494-513, 1908. Starkel, S., and Wegrzynowski, L.: Beitrag zur Histologie der Nebennieren bei Feten und Kindern, Arch. f. Anat. u. Entwckengsgesch., 1910, pp. 214-236.

weight. Aldrich [5] thinks that the symptoms in pyloric stenosis might occur as a result of suprarenal impairment. The resultant vegetative imbalance could produce the various degrees of pylorospasm and hyperperistalsis. This theory is compatible with the onset and course of the clinical condition.

DIAGNOSIS

That persistent projectile vomiting, visible gastric peristalsis and spastic constipation in new-born infants is indicative of pyloric obstruction (hypertrophy or spasm) is agreed by most clinicians. The indications for surgical intervention are not so uniformly agreed on by various authorities. Rammstedt [6] and Finkelstein [7] advise operation when medical treatment has been continued for two weeks without a gain in weight. Downes [8] believes in treating mild cases medically and severe cases surgically. He considers a rapid loss in weight as symptomatic of a severe case. Others recommend surgical intervention in cases in which from 70 to 90 per cent of the bismuth ingested remains in the stomach after four hours. However, as Schröder [9] says, roentgenograms do not always give the correct estimation of the conditions. For example, in my experience, four cases with a 70 to 90 per cent retention were relieved without surgery, and two of the operative cases showed only a 20 to 50 per cent retention.

Experience has led my immediate associates and myself to place more confidence in the results of a roentgenotherapeutic test than in any other test for operative intervention. In cases which do not respond to internal therapy within forty-eight hours, we advise a three to five minute application of the roentgen rays to the upper part of the chest. In the experience of others as well as of myself, if the obstruction is due mainly to the spasm, there follows within twenty-four hours temporary or permanent relief from the characteristic symptoms. If the amount of obstruction caused by the tumor is extreme, little or no abatement of the symptoms occurs. However, the patient is then in a better condition to withstand an operation than after from ten to fourteen days of ineffective medical treatment.

TREATMENT

Most pediatricians will agree with Sauer [1] that success in the treatment of this disease depends primarily on: (1) the condition of the patient at the time proper treatment is instituted; (2) the facilities for the proper nursing care and isolation of the patient; (3) the degree of obstruction (hypertrophy and spasm) at the pylorus, and (4) the skill of the physician or surgeon.

There is now less controversy between advocates of medical and advocates of surgical treatment. It is rather generally conceded that either method of treatment may relieve selected patients. The question to decide in each instance is which is the safer and more effective procedure.

With the internal methods of treatment the diet has received a great deal of attention. Thick food, especially thick cereal, is now used almost universally. Moore [10] proposes the use of vitamin B, but there are few other recommendations of this kind in the literature.

Atropine has found favor among the majority of clinicians. Camphorated tincture of opium, which had some popularity for a time in this condition, is rapidly falling into disuse. Papaverine has had some favor in Europe but is little used in this country. Recently the effectiveness of phenobarbital has been called to our attention by Sauer,[11] Barnett [12] and myself.[13]

Alkalis apparently give some relief when there is hyperacidity. Some clinicians have observed that these infants do not tolerate acid feedings well. Gastric lavage preceding feedings is beneficial in some cases. That feeding by gavage favors the retention of the food in certain cases is recognized by some authorities.

Several observers [14] have reported satisfactory results with irradiation. During the last five years, I have had irradiated the upper part of the chests of thirty-seven patients, who failed to respond to internal therapy. In four of these cases there was little or no change in the symptoms, and a Rammstedt operation was performed. In the thirty-three other cases the vomiting and visible peristalsis subsided following irradiation. All but one patient survived, and his condition was extremely poor at the time treatment for pyloric obstruction was instituted. Parenthetically, I feel certain that some of the thirty-two other patients could not have survived either a protracted medical treatment or the shock of major surgery. Of the thirty-seven cases, eighteen presented the characteristic symptoms of pyloric obstruction only. Of these eighteen, the symptoms in fifteen subsided following irradiation; a Rammstedt operation was performed on the other three. In one of the other nineteen patients who had attacks of dyspnea as well as projectile vomiting and visible peristalsis, the pyloric symptoms were not relieved by exposure to the roentgen rays. That patient was operated on and a typical pyloric tumor found and incised. In my opinion the saving of time and the lesser probability of injury to the patient make roentgenotherapy worthy of consideration. If used, it is not necessary to try internal therapy for from one to two weeks first and possibly lower the infant's vitality and thus increase the risk of surgical intervention when surgical intervention becomes imperative. By the application of from three to five minutes of the roentgen rays, one may ascertain within twenty-four hours whether or not an operation will be necessary. Furthermore, those patients who respond to roentgen therapy return to normal physical health in a shorter time than do the average patients treated by medical means.

The roentgen technic used in most of these cases is as follows: An area over the manubrium of 1½ by 2 inches was exposed. The face, neck and the rest of the chest were shielded. The spark gap is from 6 to 7 inches; milliamperes, 5; distance, 12 inches, with 3 mm. of aluminum for filtration; time of exposure, from

5. Aldrich, C. A.: Symptoms of Vagotonia and Thymic Hypertrophy, J. A. M. A. **94**: 1119-1112 (April 12) 1930.
6. Rammstedt, C.: Zur Operation der angeborener Pylorusstenose, Med. Klin. **8**: 1702, 1912; Die Operation der angeborener Pylorusstenose, Zentralbl. f. Chir. **11**: 1913.
7. Finkelstein, H.: Zum Pylorospasmus der Säuglinge, Deutsche med. Wchnschr. **40**: 873, 1919; Lehrbuch der Säuglingskrankheiten, Berlin, 1921.
8. Downes, W. A.: Congenital Hypertrophic Pyloric Stenosis, J. A. M. A. **75**: 228 (July 24) 1920.
9. Schröder, Emilie: Therapy of Pylorospasm, Fortschr. d. Med. **48**: 93, 135, 177, 1930.
10. Moore, C. U.; Brodie, J. L.; Dennis, H. G., and Hope, R. B.: Congenital Pyloric Obstruction, Arch. Pediat. **46**: 416 (July) 1929.
11. Sauer, L. W.: Dietary Treatment of Nonsurgical Pyloric Stenosis, Am. J. Dis. Child. **37**: 3 (March) 1929.
12. Barnett, E. J.: The Use of Phenobarbital in Infant Feeding, Arch. Pediat. **47**: 452 (July) 1930.
13. Barbour, Orville: The Use of Phenobarbital in Infant Feeding, Arch. Pediat. **48**: 55-59 (Jan.) 1931
14. Pitfield, R. L.: Pyloric Obstruction and Thymic Disease, New York M. J. **105**: 988 (May 26) 1917. Barbour, Orville: Pylorospasm as a Manifestation of Thymic Disturbance, Arch. Pediat. **44**: 314 (May) 1927. Rubin, M. J.: The Association of Pylorospasm and Thymic Enlargement in Children, J. A. M. A. **90**: 1694 (May 26) 1928. Aldrich (footnote 5). Wiener, Carl: Jahrb. f. Kinderh. **122**: 113-122 (Nov.) 1928.

three to five minutes. Should more than one treatment be needed, I have found the effects of radium to be more lasting than those of roentgen rays. The following dosage seems to be a satisfactory one. Ninety milligrams of radium is applied over the upper part of the chest for two hours on each of four areas. The size of pack used is 1 inch by 1 inch. It is placed 2.5 cm. from the skin, with 1 mm. lead filter plus a lead jacket.

Petersen [15] has presented the only satisfactory explanation for the results obtained by irradiation. He has demonstrated that a nonspecific protein reaction occurs, which stimulates the sympathetic system and thus inhibits the activity of the vagus system. I wonder whether the results evidenced [16] in blood transfusions might not be due, at least partly, to the effect of such nonspecific protein.

Rubin,[14] Pitfield,[14] Aldrich [5] and Barbour and Connel [17] applied the roentgen rays to the upper chest region. Wiener [14] reports good results in six cases following the application of the rays to the region of the pylorus. In two of my recent cases, the thymus area was blocked off and the remainder of the upper part of the chest irradiated. The results seem to be as satisfactory as were those following irradiation of the thymus areas. J. Vas [18] reports a beneficial effect in cases of exudative diathesis following irradiation of the thymus region, of the skin over the liver, and of the skin over the abdomen.

The surgical modus operandi concerned in the treatment of pyloric stenosis has been greatly improved during the past twenty years. Strauss [19] and Haas [20] are of the opinion that the Rammstedt operation, which is the present method of choice, does the same thing as medical treatment, by severing the nerves through which the reflexes are induced. According to Wollstein's [21] observations, the Rammstedt procedure does more than that. It produces a subsequent atrophy of the hypertrophied pylorus and thus allows the disappearance of the obstructing tumor. The question of when to advise surgical intervention is still the main problem. In my opinion a therapeutic roentgen test offers an aid toward the solution of this question. Each patient is an individual problem to which one should give the full benefit of present-day knowledge. Clinicians should try to select the method or combination of methods, medical or surgical, which in their belief would assure the patient's recovery in the shortest time.

REPORT OF CASES

During the last five years I have had thirty-seven patients with congenital pyloric obstruction irradiated. Twenty-one of these cases have been reported in detail elsewhere.[17] I shall include in this paper only those in which the question of surgical intervention became urgent. The cases in which dyspnea was a prominent symptom need not be discussed here, for those were more obviously of a nonoperative class.

By way of review I shall recapitulate the salient features of those cases which have already been reported: [17]

CASE 1.—A male infant promptly vomited each feeding after his birth. The obstetrician and consulting surgeon had found a 50 to 60 per cent retention of a four hour barium meal and decided to operate. We noticed a large thymus shadow on the roentgenograms and decided to irradiate the upper chest region before submitting the patient to the operation. To our surprise, the vomiting ceased, at first temporarily, and then permanently in response to subsequent irradiation.

CASE 2.—This was almost a duplicate of case 1 in symptomatology, treatment and results.

CASE 4.—Because of the persistent vomiting of this baby girl and a 70 to 80 per cent retention of a four hour barium meal, the obstetrician and consulting surgeon had advised a Rammstedt operation. Because I noted in the history that the vomiting had stopped for three days after the taking of the barium pictures, I felt safe in advising roentgen therapy. The treatment was given, and the vomiting subsided promptly.

CASE 6.—A boy, aged 7 weeks, had been vomiting and losing weight for ten days. Atropine controlled the vomiting for seven days. The vomiting recurred on the eighth day. It was promptly relieved following irradiation.

CASE 7.—Projectile vomiting had occurred after every feeding for three weeks with this 5 weeks old boy. He was dehydrated and seemed a poor risk for surgery. Atropine had no effect on the vomiting. There was a 70 to 80 per cent four hour retention of a barium meal. Because of the patient's poor physical condition, instead of operating, roentgen rays were applied to the upper part of the chest for five minutes. The symptoms disappeared permanently following this and one more treatment.

CASES 11, 12 and 18.—These patients started vomiting on their second day of life. No relief was obtained with atropine in any of them. No vomiting occurred in any of the cases following a five minute exposure to the roentgen rays.

CASE 17.—A boy, aged 5 weeks, had been vomiting after each feeding for one week. Atropine had no effect. No vomiting occurred for two days following a roentgen treatment. Permanent relief then followed a radium application and a course of neoarsphenamine.

The following detailed histories of six cases have not heretofore been published:

CASE 22.—S. F., a girl, aged 5 weeks, a first child, breast fed, weighing 6 pounds (2.722 Gm.), which was just 8 ounces (2.27 Gm.) more than her birth weight, Feb. 20, 1929, nursed every three hours but for five days had been vomiting shortly after each feeding. She cried most of the time. Flatus was causing some distress. Active peristalsis was quite evident, but I could not palpate a tumor. The infant was placed on complementary feedings of diluted milk and given atropine. She did nicely for twelve days. On the thirteenth day the projectile vomiting recurred. It persisted for five days. On the fifth day, roentgen rays were applied to the upper part of the chest for five minutes. She then did very well for eleven days. On the twelfth day a radium treatment was given. From then on she retained her feedings and gradually recovered her normal weight.

CASE 25.—H. G., a boy, aged 3 months, a first child, seen Sept. 7, 1929, weighing 6 pounds 4 ounces (2.835 Gm.), just 1 pound (4.54 Gm.) more than his birth weight, presented an extreme picture of malnutrition and dehydration. He had been vomiting most of every feeding since birth. The vomiting was projectile in type. He had spent the first ten weeks of his life in a hospital. His feedings had been changed fourteen times. There had been no diminution in the vomiting at any time. During the past two weeks he had been getting powdered milk, with atropine and camphorated tincture of opium, and had been taken to his home unimproved. I had him removed to the Methodist hospital. There, as near as

15. Petersen, W. F., and Müller, E. F.: Splanchnoperipheral Balance During Chill and Fever, Arch. Int. Med. **40**: 575 (Nov.) 1927.
16. Moore, C. U., and Dennis, H. G.: Subcutaneous Blood Transfusion in Children, Northwest Med. **28**: 140 (March) 1928. Sidbury, J. B.: Transfusion in Infancy and Childhood: Review of Cases, J. A. M. A. **89**: 888 (Sept. 10) 1927. Siperstein, D. M., and Sansby, J. M.: Intraperitoneal Transfusion with Citrated Blood, Am. J. Dis. Child. **25**: 107 (Feb.) 1923.
17. Barbour, Orville; and Connel, J. W.: Relief of Projectile Vomiting in Infants by Radiation of the Upper Chest Region, Illinois M. J. **57**: 110 (Feb.) 1930.
18. Vas, J.: New Points of View in the Treatment for Exudative Diathesis, Monatschr. f. Kinderh. **46**: 43 (Jan.) 1930.
19. Strauss, A. A.: Congenital Pyloric Stenosis, S. Clinics, Chicago **4**: 93 (Feb.) 1920.
20. Haas, S. V.: Congenital Pyloric Stenosis and Its Treatment by Atropine, J. A. M. A. **79**: 1314 (Oct. 14) 1922.
21. Wollstein, Martha: Healing of Hypertrophic Pyloric Stenosis After the Fredet-Rammstedt Operation, Am. J. Dis. Child. **25**: 511 (June) 1922.

could be estimated, he retained 70 to 80 per cent of a four hour barium meal (he vomited some of the barium and an accurate estimate of its retention could not be made). As his serious condition did not warrant surgical intervention, radium was applied to the upper part of the chest. He was then fed whole lactic milk by gavage every four hours. Large quantities of mucus were siphoned from the stomach preceding each gavage. Eighteen days later he had gained 8 ounces (227 Gm.) and seemed so much better that he was sent home. At home he refused to take enough to thrive on, and so was returned to the hospital. He spent five more months there. I then taught his mother to feed him by gavage. Returning the patient home at 8 months of age, the mother fed him his essential calories by gavage, and gradually taught him to swallow his food. A month later, when a little more than 9 months of age, this infant was for the first time swallowing and retaining sufficient food to live and grow. During his five months' stay at the hospital, although the vomiting stopped, his gain in weight, as one would expect with an infant so athreptic, was very slow. To relieve anemia, four intraperitoneal transfusions of defibrinated blood were given. A total amount of 700 cc. was injected.

CASE 27.—E. P., a boy aged 10 weeks, a second child, breast fed, had projectile vomiting and loss in weight during the three weeks preceding the first examination, Oct. 2, 1929. There was marked visible peristalsis. Atropine relieved the vomiting for six days. The vomiting recurred on the seventh day and did not diminish following the administration of phenobarbital. It promptly and permanently stopped after an application of radium to the upper part of the chest.

CASE 28.—G. R., a boy, aged 3 months, a first child, had been fed condensed milk since 1 week of age. Projectile vomiting had occurred after nearly every feeding for four weeks. He was malnourished. Active peristalsis was visible, Nov. 4, 1929. He was given cow's milk and one-fourth grain (0.016 Gm.) of phenobarbital in each feeding. After one week there was little if any diminution in the vomiting. There was a 20 to 30 per cent retention of a barium meal after four hours. Atropine, gastric lavages and thick feedings by gavage had no effect on the vomiting. The vomiting ceased for three weeks following roentgen therapy. During that time he gained 2 pounds (907 Gm.). There was no more recurrence of the symptoms following a radium treatment of the upper part of the chest.

CASE 29.—L. A., a boy, aged 3 weeks, a first child, artificially fed, seen Dec. 19, 1929, had had projectile vomiting of each feeding for three days. There was visible peristalsis. No relief resulted from the use of phenobarbital for twenty-four hours. For three days there was some diminution of the vomiting, with the use of atropine, lavage, gavage and thick feedings. X-rays showed a 50 to 60 per cent retention of barium in four hours. Radium was then applied to the upper part of the chest. The vomiting was controlled with phenobarbital. Two weeks after the radium treatment, watery stools filled with mucus were expelled frequently. This has occurred with 50 per cent of my cases, following radium therapy. The condition responds very readily to preparations of bismuth. Two weeks later the mother discontinued the phenobarbital. Two days later the vomiting recurred. The administration of phenobarbital was resumed and continued for three weeks more, after which time it no longer proved necessary.

SURGICAL CASES

CASE 2.—B. B., a boy, aged 3 weeks, the fifth child, seen Dec. 11, 1928, had had projectile vomiting for six days. Atropine, lavages and gavage of thick feedings evinced no appreciable results. A roentgen treatment rendered no relief. Ninety per cent of a four hour barium meal was retained. Excellent results followed a Rammstedt operation. One month after the operation the projectile vomiting recurred with apparently as much severity as before. This time prompt and permanent relief followed radium therapy.

CASE 3.—T. G., a boy, aged 12 days, a first child, artificially fed, seen June 20, 1921, weighed 6 pounds 14 ounces (3,118 Gm.), which was 2 ounces (5.7 Gm.) less than his birth weight. He had had projectile vomiting for three days. Phenobarbital, lavage, gavage and thick feedings alleviated the vomiting sufficiently to allow for a gain of 1 pound (454 Gm.) during the next two weeks. Roentgen rays were then applied to the upper part of the chest. The vomiting continued and there was no further gain in weight. From 20 to 30 per cent of a four hour barium meal was retained. The surgeon incised a typical tumor. The vomiting stopped, but the infant's weight would not increase. Nine days after the operation his red blood cell count was 3,280,000, and his hemoglobin 65 per cent. The following day I gave him 150 cc. of defibrinated blood intraperitoneally. Nine days later his blood report was hemoglobin, 72 per cent; red blood cells, 4,540,000. He was then discharged from the hospital in good condition and has continued to develop normally.

SUMMARY

According to present-day knowledge, the symptoms of congenital pyloric obstruction are dependent on the degree of spasm and the amount of obstruction caused by the tumor. That the pylorospasm is a manifestation of vegetative imbalance is thought by many authorities. There is some evidence that this imbalance is the result of a postnatal involution of the suprarenal glands. Opinions as to the indications for surgical intervention vary a great deal. I have found a therapeutic roentgen test more reliable than any other procedure. In the medical treatment of these cases, thick feedings, atropine, papaverine, phenobarbital, lavage and gavage are used more or less by various clinicians. Surgically, the Rammstedt operation is the method of choice. Roentgen therapy has been found effective by myself and others in certain cases.

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ABSTRACT OF DISCUSSION

DR. R. H. DENNETT, New York: No one method has been entirely successful, but I believe that each one has its place today. In pyloric obstruction, as in every other disease, an orderly method of treatment should be followed—first, the feeding; perhaps next would come atropine, and close on its heels or before, roentgen rays and, finally, operation. Where one starts in this orderly procedure depends on the duration and rapidity of progress of the symptoms and also on the severity of the case. For instance, in many mild cases of seeming obstruction, if seen early, at the very beginning, recovery ensues with the proper feeding alone. I am not one of those who have been overenthusiastic about the thick cereal feeding, and each pediatrician perhaps has his own method of approach to this feeding problem, but the feeding itself is of tremendous importance. Then comes atropine. There are those who are overenthusiastic, who say atropine will cure all cases, that surgery is unnecessary. Most of us have found atropine to be useful in many cases and it is worth a thorough trial. It has its distinct place, and in my experience it has saved many a child from operation. I believe parenthetically that we do not use atropine persistently enough and in large enough doses; I have used as much as one-tenth grain a day in carefully gradually increased dosage to a seven pound child. If immediate improvement has not followed the proper feeding and atropine therapy, the next step is roentgen treatment, which Dr. Barbour has so well described. I have reviewed his thirty-seven cases carefully. He has had an extensive experience which cannot be ignored and his experience and cases are convincing. My own experience with roentgen treatment has been limited, but the few cases in which I have used it have remarkably and pleasingly surprised me by the immediate results. It takes only twenty-four hours to determine the immediate effect in some of the cases at least, or the probability of its beneficial effect, and it cannot do any harm when carefully used. Therefore, I believe it is one other method of approach and is going to be one of the lasting aids in the treatment of pyloric obstruction. Finally comes surgery. There will always be a certain number of surgical cases. The decision of operation rests with the pediatrician, the one who has followed the case and, as Dr. Sauer has been already quoted

by Dr. Barbour as saying, the skill of the physician is the outstanding factor in the prognosis.

DR. M. HINES ROBERTS, Altanta, Ga.: The striking infrequency of pylorospasm in the Negro seems to support strongly an etiologic theory—one that seems to me more satisfactorily described by the term "spasmogenic aptitude," used by Gallavardin, which presupposes the existence of a hyperirritability of the sympathetic or vagus before spasm of unstriped muscle occurs. Houston has attempted to explain this characteristic on the basis of a fundamental psychology of the races. The psychology of the white race, which is essentially one of struggle, one which has for its goal the domination or destruction of every obstacle placed in the path of attainment, seems in striking contrast with that of the Negro, who accepts environment and conditions as they are. Rather than put forth the tremendous energy required to change his environment, he finds it easier to make internal adjustments which permit him to accept things without change. Possibly, as suggested by Houston in writing of the Chinese, herein lies the secret of the so-called spasmogenic aptitude—a psychology which determines the irritability of the sympathetic nervous system and its ability to respond in the form of spasm to the slightest stimulus. The fact that hypertrophic pyloric stenosis seems to be a disease of modern times with a tremendous increase in the number of cases during the past thirty years suggests the explanation that this age and its customs have accentuated the "psychology of struggle" in the white race. If this is true, it is probable that the incidence of pyloric obstruction in the new-born—indeed, spasm of any smooth muscle of the body—will continue to increase until we learn to live differently and think differently.

DR. C. ULYSSES MOORE, Portland, Ore.: As the etiology of this disease is mixed up, as the last speaker has said, with modern times, which may indeed include our modern diets as one of the causative agents, it would be well to study this condition in a race that, so far as I know, has no spasmogenic aptitude. I chose the albino rat and mixed rat races for this study. In fact, I came on pyloric obstruction in rats accidentally. I have been working on vitamin B for some seven years and have found that, in certain strains and families of rats of one, two or three generations, pyloric obstruction was a frequent occurrence and in others did not occur at all. It seemed as though it was worth while considering, at least, that the vitamin B complex has an etiologic relationship to this condition and that it goes back to a maternal deficiency. In a study of several hundred of these (data are being collected on more than 2,000 animals) that died in partially deficient vitamin B condition, those that died at birth or even before birth in a majority of instances showed a cerebral or abdominal hemorrhage. Those that died during the second week showed gastro-intestinal troubles and among these frequently was found a pyloric obstruction.

DR. ALFRED F. HESS, New York: I had hoped somebody would say something about possible dangers here. I feel as if I must arise and say that I wondered whether there could be any danger attached to treating these new-born babies with roentgen rays or radium. I have no experience which would lead me to think so. On the other hand, this pylorus is so closely associated with the suprarenal, with the pancreas, with the glands of the stomach, and the intestine, that it makes one wonder whether these glands which are so sensitive to these irradiations may not likewise be affected. Of course, this matter could be studied experimentally. I think it might be worth while perhaps to make tests of this question on young or new-born puppies or new-born cats, to see just what happens, whether there is no possible injury of these glands.

DR. JOSEPH BRENNEMANN, Chicago: It has always seemed to me, and increasingly so with experience, that the whole problem of what to do with pyloric stenosis is a very simple thing. Whatever the etiology of the thing may be, however pylorospasm and stenosis may be interrelated, clinically there are two distinct conditions. There is a pylorospasm and true hypertrophic pyloric stenosis. If that is true, then there is a therapeutic test and also the test of whether one can find a tumor in these cases or not. The tumor has not been mentioned. I do not think it is wise, as Finkelstein and others apparently have said, to wait two weeks. If one is going to make the diagnosis of true hypertrophic pyloric stenosis, one had better make it on Tuesday rather than on Friday on the same child and have it done as soon as possible. As far as roentgen diagnosis is concerned, I don't believe it means anything. Why does the child vomit—any child that has a pylorospasm? It naturally has a retention at the end of four hours. That is part of the trouble and why he doesn't get along well. Therefore, I think deductions made on the time any food remains in the stomach are erroneous. My own practice is to give atropine. I am afraid of one-tenth grain. I have seen a temperature of 109 F., with one five-hundredth grain of atropine. One can use it judiciously. My own practice is to give some sort of food that goes through rather easily. I favor condensed milk, evaporated milk, lactic acid milk, breast milk, and give atropine up to the point of tolerance. If within a day or two or three, depending on the condition of the baby, I get no results, I begin to think of an operation. Whenever I feel, as in the vast majority of cases, I should say nine out of ten, a true, large tumor, I consider that there is no use of going on much with anything else, that the child had better be operated on.

DR. JULES M. BRADY, St. Louis: Some three years ago I learned that exposure of the chest with roentgen rays had an effect on spasmodic vomiting. I endorse what Dr. Barbour has said, that a favorable effect is produced by this exposure. Our technic is a little different from that of Dr. Barbour since we use a 16-inch distance and we do not feel it necessary to protect surrounding structures. In other words, we have special cones made which automatically (as Dr. Hess uses the word) protect the surrounding parts. I can say we have had very good results in a certain number of these cases. It does not cure all the cases. The atropine treatment, in my opinion, has its drawbacks. So many of the babies become poisoned, develop fever, become excited, that I am loath to use atropine. There are a certain number of infants that do not respond to the roentgen treatment. These are the ones that have been subjected to the Rammstedt operation. At this time I am not ready to report on how I have proceeded with the cases which do not respond to roentgen treatment, but I hope to do so later. I think roentgen treatment is a distinct contribution to the treatment of spastic pyloric stenosis.

DR. E. L. BAUER, Philadelphia: A good many of these patients with pylorospasm need never see a surgeon, but it is distinctly the fault of the practitioner and the pediatrician that those cases that come to the surgeon are usually brought to him at a time when surgery will no longer help the child. In other words, we waste entirely too much time in attempting to prove one way or another whether medical treatment will avail. I know of no good reason why ten days to two weeks should be used at the expense of the baby in determining whether pylorospasm will or will not respond to dietetic management, atropine, or even roentgen rays. That can be done in a brief time, as some of the other discussers have already indicated. As for roentgen treatment, I have seen the cases of Pitfield and a few others that have been treated in this manner and I do not believe that the roentgen ray in itself will help a true hypertrophic stenosis. It is all right in pylorospasm. Time should not be wasted there either. Dr. Brennemann suggests a method of feeling for the tumor. There is one thing that may be of help to a great many in addition to procedures that he carries out. If one stands at the head of the bed, with the patient's head toward one and feels upward, rather than pushes toward the tumor, one will have more finger space for the palpation of these tumors and probably will find more of them. A neurotic ancestry, as elucidated, too, by Pitfield, who said that a neurotic mother or the mother from a neurotic family will have a boy with pylorospasm or a tumor, or, on the father's side, if that is a neurotic family, the girls will have it, is another etiologic possibility. This he has worked out in a series of cases with more of an academic than of a practical value. Now that we hear about pylorospasm in rats, I wonder whether we are going to find that they are neurotic rats. Let me again urge that, when these cases are surgical cases, pediatricians make up their minds promptly and definitely before they let these children become athreptic and dehydrated. One more word about atropine. I have been using recently homatropine hydrobromide with the same therapeutic results, and without the untoward and disturbing symptoms of atropine itself.

DR. ORVILLE BARBOUR, Peoria, Ill.: Dr. Dennett was one of my first postgraduate teachers. It gives me much pleasure to win his approval. He speaks of the effectiveness of atropine. All have found it so, I believe, but I, like others, have learned to fear its untoward reactions. Atropine rashes occur too frequently. I have seen atropine fevers of 107 F. If they occur at 3 o'clock in the morning, they are disturbing to say the least. I have had less untoward result with phenobarbital, and in certain cases it seems to be more effective. Dr. Roberts' statistics on the Negro are certainly interesting. I have read most of Dr. Moore's reports, but my results have not compared with his. Perhaps it is because brewers' yeast is more effective in vitamin B deficiency than a preparation of maltose and dextrin with vitamin B, which is the only type of vitamin B that I have used in these cases. Drs. Hoobler, Rowland and Dennett in their reports state that in their opinion the condition of the stomach in their cases is one of gastric atony as a result of vitamin deficiency rather than a pylorospasm. In answer to Dr. Hess's question as to the possible danger of this method, we try carefully to shield the suprarenals, pancreas and other vital organs in these patients from the rays. Dr. Ivy and his associates have shown that the abdomen is much more sensitive to roentgen rays than is the thorax. It is for that reason that we have continued with the method of applying the rays to the upper part of the chest rather than to the abdomen, as does Dr. Wiener. I am happy to know that Dr. Brennemann always feels pyloric tumors. I cannot. Frequently the fact that the pylorus is located under the liver makes it difficult to find.

Clinical Notes, Suggestions and New Instruments

ATROPINE DERMATITIS: AN UNUSUAL CASE ASSOCIATED WITH ERYSIPELAS

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Hypersensitivity to atropine is by no means rare, being found fairly frequently in ophthalmic practice. This case exhibits several rather unusual features, which seem to justify our reporting it:

REPORT OF CASE

Mrs. E., aged 59, white, was referred to us for treatment because of failing vision in both eyes. The past history was irrelevant except that she had erysipelas of the left side of the face two and one-half years previously. Examination revealed immature cataracts in both eyes, the tension being slightly increased in the left. Iridectomy in the left eye was advised preliminary to cataract extraction by Barraquer's method.

Dec. 10, 1930, an iridectomy was performed on the left eye. The operation was uneventful. Atropine ointment, 1 per cent, was instilled and the patient seemed well. During the night she became very restless, getting out of bed and removing the dressings. Amytal failed to quiet her. The following morning, she was still very restless and perhaps slightly irrational. Because of this condition, the dressing was not removed.

The next morning, December 12, the nervousness persisted in spite of sedatives, although the patient was more rational. The lids of the operated eye were slightly red, but no swelling was present. Atropine ointment was again instilled. December 13, the redness of the lids had increased and marked edema had appeared, together with a slight discharge. Mercurochrome-220 soluble, 1 per cent, was applied to the lid and silvol, 12.5 per cent, instilled. Five cubic centimeters of milk protein was given. No atropine was used. The condition responded to the treatment and improved slowly under symptomatic treatment until December 24. Atropine ointment was instilled three times in the interval.

The morning of December 25, the lids were again slightly swollen and on December 26 the left eye was practically closed by the swelling. An internist, called in consultation, suggested the possibility of an atypical erysipelas and advised isolation and treatment with streptococcus antitoxin. At no time was the conjunctiva chemotic or redder than might have been expected postoperatively, nor was there any pain. The patient was discharged, Jan. 8, 1931, with the lids entirely clear except for a small hordeolum on the upper lid.

April 1, the patient was readmitted to the Deaconess Hospital, for cataract extraction. The skin of the eyelids was clear and soft. April 3, the day before operation, mercurochrome, 1 per cent, was instilled every two hours; also atropine ointment, 1 per cent, and mercuric chloride, 1:3,000. The following morning, the left eye was reddened and swollen shut as before. The swelling extended upward into the brow and downward over the cheek, beyond the outer canthus and to the midline of the nose. At first the swollen area was almost a fiery red and, later, became dusky. The patient was placed in isolation as before.

Because of the extremely sudden and severe onset immediately after the use of atropine (the lids swelling shut within twelve hours) and because of the fact that the skin had been clear previously, it occurred to us that we might be dealing with an atypical atropine dermatitis, rather than an atypical erysipelas. Also, at this time the patient gave a history of having had a "plaster" applied to her back sometime previously, which raised a large red blister. She was unable to name the type of plaster, but we assumed the possibility of its having been a belladonna plaster.

The use of atropine was discontinued, and under cold applications the swelling began to subside. No other treatment was used. The morning of April 7, about 1 minim (0.06 cc.) of 0.1 per cent atropine solution was injected intradermally into the skin of the left forearm. Ten hours later, only a moderate redness could be seen. Another test was made with atropine and 1:100,000 mercuric chloride (both in physiologic solution of sodium chloride), sterile physiologic solution of sodium chloride being used as a control. A duplicate series was run on the junior author's left forearm. Within twenty-four hours the results were as given in the accompanying table.

By this time the first atropine wheal had become an angry red papule, 10 mm. in diameter and raised about 1.5 mm. The following morning, April 9, the reaction was seen extending upward, apparently along the lymphatics, from the first wheal. This persisted for several days. The swelling of the lids gradually disappeared.

April 13, the cataract was removed by a Barraquer operation. Scopolamine hydrobromide, 0.1 per cent, was used as a mydriatic. There was no swelling of the lids at this time, although slight redness was still present. April 16, the dressing was removed for the first time. The lids were perfectly normal.

Results of Tests

	Patient	Control
Physiologic solution of sodium chloride	0	0
Mercuric chloride, 1:100,000	0	0
Atropine, 0.1 per cent	+ + +	±

April 19, atropine was instilled through error. The mistake was realized immediately and the ointment wiped out as completely as possible. The following morning, the swelling and redness of the lids had recurred over almost the identical area previously affected and the lids could not be opened. Treatment with infra-red radiation and a bland ointment soon brought the skin almost to normal, although a slight redness and swelling persisted for several days. The postoperative congestion of the conjunctival vessels persisted longer than usual. A few days later, a hordeolum appeared on the left lower lid. This was opened and cleared up promptly. Several days later, one appeared on the right lower lid. This also responded well to treatment. The patient was discharged from the hospital, May 19, the skin of the lids being normal in appearance. Apparently there were no ill effects except for the delayed convalescence.

COMMENT

The unusual severity of this reaction to atropine, together with the history of erysipelas, raised the question of the possibility of a residual or latent infection with *Streptococcus erysipelatis*. That the patient had an idiosyncrasy toward atropine is certain, as shown by the rapid onset of swelling and of redness after its use. This is confirmed by the results of the skin tests.

The question of latent erysipelas cannot be disposed of so easily. Certain facts point to it, however. The sharp delimitation of the swelling and its recurrence in almost identically the same area, coupled with the history of erysipelas, the response of the first attack to streptococcus antitoxin, the failure of atropine to excite exacerbation of the swelling during the first attack, and the occurrence of hordeola following the first and last attacks, certainly fit in with this supposition.

It has seemed to us that this unusually severe reaction can be explained only on the basis of a marked atropine idiosyncrasy, producing a reaction in an area of skin already damaged by an attack of erysipelas or harboring a residual infection.

28 South First Avenue.

SUSPENSION METHOD OF TONSILLECTOMY IN EIGHT THOUSAND TONSILLECTOMIES *

ELMER L. WHITNEY, M.D., DETROIT

To boast of a superior method of doing a tonsillectomy under general anesthesia is fraught with danger. It is my purpose not to present a new method but to present one which has been used by many and one which has proved very successful from two standpoints; namely, (1) ease and safety for the beginner, and (2) freedom from complications.

In a personal communication in September, 1929, from S. J. Crowe to R. D. McClure concerning the origin of the Crowe mouth gag, Crowe replied that E. C. Sewall was the originator and that Griffith Davis had made modifications from time to time. It was designed for neurologic and nose and throat surgery. McClure introduced this gag to the staff of the Henry Ford Hospital some fifteen years ago. The late W. T. Garretson, who soon became chief of the otorhinolaryngology service, began using the laryngeal suspension apparatus to hook this gag to, thus completing the suspension idea and freeing the anesthetist from the duty of holding the gag, and giving him freedom for the observation of his patient.

Fig. 1.—Position of patient, operator and anesthetist; low position of operative field and excellent exposure are shown.

The accompanying illustrations explain the principle.

This has proved a safe method for the beginner, and each man who has left the service continues to use it. The operator always has complete control of his patient's throat; the glottis is always in view; the tonsils are well defined, and the tongue is automatically held out of the way, so that there is no excuse for injuring the pillars or the soft palate. An assistant is not necessary. An efficient suction apparatus is of the greatest value.

The technic of enucleation is that of most operators—dissection with snare. A Dean angular knife is used to free the mucous membrane; then a Hurd dissector is applied with the assistance, in places, of the Knight angular scissors and finally Tyding's snare. The fossae are completely exposed after enucleation, so that a careful survey for bleeding vessels or any possible remaining tag can be dealt with under clear vision and with complete control of the patient. I make it a practice to tie major bleeders with triple 0 catgut. The artery forceps are a light weight modification of the abdominal Kelly clamp. The knot is slipped over the end of the forceps with the index finger.

Fig. 2.—Patient draped; Mayo table and instruments; operator sitting at head of patient.

In children, when adenoids are to be removed, the latter are dealt with first in order that the pillars will not be injured, as they frequently are if the tonsils are removed first. Vogel's and Sir St. Clair Thompson's adenoid curets are used. A gauze sponge is immediately placed in the adenoid area and removed after the tonsils are out. Sometimes a sponge with a string attached is returned and left till the patient reacts.

The same gag and position are excellent in dealing with retropharyngeal abscesses.

There have been no complications with this method. It has been used on patients of all ages but particularly on young persons, as practically all adults have local anesthesia. Eight thousand patients have been operated on. Each received a general physical examination one or more days before the operation. On the morning of the operation the chest is reviewed again. All cases with a slight fever or suggestion of an acute upper respiratory infection are excluded.

In order to prove that aspiration did not take place either at the operating table or later, 1 ounce (30 cc.) of equal parts of iodized poppy-seed oil and liquid petrolatum was introduced into the hypopharynx during and just following the operation. Roentgenograms of the chest were made on the operating table and again in the afternoon. One hundred exposures in all were made and none showed any evidence of iodized oil in the bronchial tree. Also a number without iodized oil were examined bronchoscopically and no evidence of blood or mucus was found.

It has been the practice to recall all tonsillectomized patients one month after operation to see whether the throats were clear and that no lung complications had arisen, so that it is felt that the records are reasonably correct as to complications.

CONCLUSIONS

1. The suspension method is safe for beginners, as complete control of the patient and clear exposure of the throat are obtained.

* From the Division of Oto-Rhino-Laryngology, Henry Ford Hospital.

2. Complications from lung abscess were absent in 8,000 patients who were operated on.

3. Aspiration of iodized poppy-seed oil during or after the operation did not occur in any of fifty tested cases.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY OF THE AMERICAN MEDICAL ASSOCIATION HAS APPROVED THE FOLLOWING REPORT.

H. A. CARTER, Secretary.

EVEREADY PROFESSIONAL MODEL CARBON ARC LAMP ACCEPTABLE

The Eveready Professional Model Carbon Arc Lamp is manufactured by the National Carbon Company, Inc., Cleveland, Ohio. It is designed for general radiation therapy in physicians' offices or clinics.

Description.—The lamp is mounted on a large rugged stand, equipped with rubber wheeled, ball bearing casters which permit the lamp to be moved easily over the floor. The height of the lamp is adjustable between the limits of 42 to 60 inches from the arc to the floor. The center line of the beam can be tilted 45 degrees above horizontal and 45 degrees below. The Professional Model is designed to operate on 115 volt, 60 cycle, alternating current circuit through a standard outlet (base plug or wall plug). It operates on two number 610 (10 mm. by 15.24 cm.) Eveready Therapeutic Carbons. The carbons are brought into contact, separated and held at proper arc length during burning by means of a motor-operated constant current arc control. The feeding of the arc is entirely automatic and the feeding mechanism is started merely by turning on the switch. The carbons are drawn together and, when the arc strikes, they immediately separate to the correct arc length. When the carbons have burned to the minimum permissible length, the arc is automatically extinguished. The separation of the carbon holders to the extreme open position for installation of new carbons is effected by depressing the reverse switch on the upper cap of the base housing. The travel of the carbon holders is stopped at the extreme open position. The transformer is mounted in the base and is designed to deliver continuously 25 amperes on the secondary winding. The current on the primary winding does not exceed 15 amperes. A complete list of operating instructions accompanies the lamp. Suffice to say the lamp is controlled by means of the operating switch. No manual control is required. Dosage recommendations are not stated, because personal experience only can provide this information.

Fig. 1.—Eveready Professional Model Carbon Arc Lamp.

Physical Claims.—The National Carbon Company, Inc., claims that the Eveready Therapeutic Carbons offer a selection of three distinct types of therapeutic radiation; namely, infra-red, visible, and ultraviolet. Radiations shorter than 2,900 angstrom units, approximately, are eliminated by means of a (removable) glass filter. The current at the arc is 25 amperes, which is ample to produce a satisfactory emission of ultraviolet radiation. The feeding mechanism is said to maintain constant input of electrical energy at the arc and gives a comparatively steady light relatively free from "jumping" throughout the period of operation.

Therapeutic Claims.—The National Carbon Company, Inc., claims that the Professional Model Carbon Arc Lamp will provide sufficient ultraviolet, visible and infra-red radiations to supply the demands of a physician practicing artificial light therapy, and claims that rickets and a few diseases of calcium metabolism may be benefited by the radiations emitted from the lamp when equipped with Therapeutic Carbons.

Dangers.—The lamp should not be connected to direct current, since it is designed to operate on 115 volt, 60 cycle, alternating current. A modified design, for operation on direct current, can be supplied where alternating current is not available. The circuit should be protected by a fuse of not less than 25 amperes capacity to accommodate momentary surge in starting. Never replace carbons with the operating switch in the "on" position.

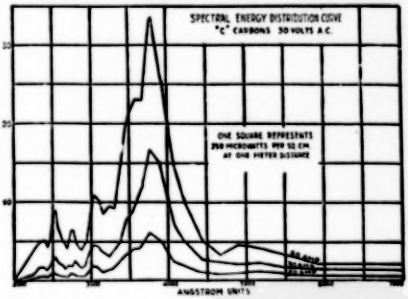

Fig. 2.—Spectral energy distribution curve for therapeutic carbons: Ordinates are so chosen that each square represents 250 microwatts per square centimeter at a distance of 1 meter; the abscissa represents wavelength in angstrom units.

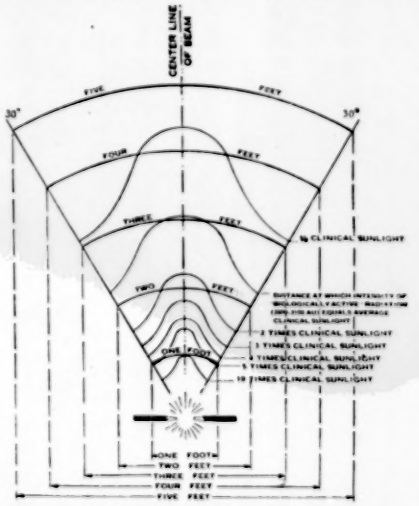

Fig. 3.—Curves of uniform intensity with Eveready carbons and special glass filter; revised, Jan. 31, 1931.

It is not wise to connect the lamp to an ordinary lamp socket. The eyes should be protected at all times to avoid conjunctivitis.

The Council on Physical Therapy declares the Eveready Professional Model Carbon Arc Lamp acceptable for inclusion in its list of accepted devices for physical therapy for a period of one year.

Committee on Foods

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COMMITTEE ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION. THESE PRODUCTS ARE APPROVED FOR ADVERTISING IN THE PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION, AND FOR GENERAL PROMULGATION TO THE PUBLIC. THEY WILL BE INCLUDED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION.

RAYMOND HERTWIG, Secretary.

MAZOLA

A Pure Salad and Cooking Oil from Corn

Manufacturer.—Corn Products Refining Company, New York City.

Description.—A canned refined corn oil.

Manufacture.—Corn, freed from mechanical impurities, is softened by steeping in 0.1 per cent solution of sulphur dioxide at 45 C. The designated temperature and acidity inhibit the development of undesirable micro-organisms and promotes that of thermophilic lactobacilli causing a lactic acid fermentation. The softened kernels are disintegrated by machine into a mixture consisting essentially of starch, corn germ and "gluten." The density of these three materials differs greatly and enables their separation by means of flotation in water. The separated germ is washed with water to remove adhering starch and gluten and is then carefully dried. The oil is expressed from the hot dried germ by presses; it is collected in tanks and refined as follows: Free fatty acids are neutralized with sodium hydroxide; the resulting soaps being insoluble in oil precipitate out, carrying with them much of the coloring matter, coagulated proteins and other non-oil substances present. The precipitated material is filtered out. The oil is treated with fullers' earth and decolorizing carbon and again filtered. The filtered oil is steamed under reduced pressure to remove volatile and odoriferous substances. The resulting oil is cooled to about 5 C. to precipitate out substances which solidify at the low temperatures and may cause the oil to become cloudy if chilled or stored at low temperatures. The precipitate is filtered off and the final refined oil packed in cans.

Chemical Composition.—

(proximate analysis)

Moisture	0.0	per cent
Ash	0.0	per cent
Specific gravity, 20°/20° C.	0.9221	
Refractive index (25° C.)	1.4728	
Freezing point	—15 C.	
Saponification number	190.	
Iodine absorption number	125.	
Acetyl value	8.2	
Reichert-Meissl number	0.5	
Hehner number	92.	
Solid fatty acids	6.	per cent
Free fatty acids as oleic acid	0.015	per cent
Unsaponifiable residue	1.5	per cent
Titer test	33.	
Absolute viscosity at 15.6 C.	0.789	

Soluble in 50 volumes of absolute alcohol at 16 C. The main fatty acids are oleic and linolic; other acids are palmitic, stearic, arachic, ricinolic, hypogaeic. The unsdponifiable matter consists of lecithin and sistosterol.

Calories.— 9.00 per gram
255.6 per ounce

Claims of Manufacturer.—A highly refined corn oil for baking and table uses.

TEA TABLE SANDWICH BREAD (Sliced)

Manufacturer.—Liberty Baking Company, Pittsburgh, Pa.

Description.—A white bread made by the sponge dough method, in sliced loaf form.

Manufacture.—The sponge dough ingredients, a mixture of 75 and 80 per cent patent flours of Northwest and Southwest wheats, water, lard, yeast, and a yeast food containing calcium sulphate, ammonium chloride, sodium chloride and potassium bromate, are mixed in a high speed mixer. The sponge dough is fermented for from four to six hours, after which are added flour, water, salt, dextrose, lard and a dried skimmed milk to make the completed dough, which is cut into pieces of desired weight. The pieces are fermented for a short time, molded into loaf form, panned, further fermented, baked for forty minutes, cooled and wrapped in wax-paper.

The factory, equipment and storage rooms for the materials used are kept in strictly sanitary condition.

Chemical Composition.—

(proximate analysis)

	per cent
Moisture (entire loaf)	33.9
Ash	1.38
Fat (direct ether extraction method)	1.0
Protein (N × 6.25)	9.6
Crude fiber	0.2
Carbohydrates (by difference) other than crude fiber	54.0

Calories.— 2.63 per gram
74.7 per ounce

Claims of Manufacturer.—A bread of good quality.

LIBERTY DELICIOUS BREAD

Manufacturer.—Liberty Baking Company, Pittsburgh, Pa.

Description.—A white bread made by the sponge dough method.

Manufacture.—The sponge dough ingredients, 75 per cent patent flour of Northwest wheat and 80 per cent patent flour of Southwest wheat, water, shortening, yeast, and a yeast food containing calcium sulphate, ammonium chloride, sodium chloride and potassium bromate, are mixed in a high speed mixer. The sponge dough is fermented for from four to five hours, after which are added flour, water, salt, shortening, dextrose and dried skimmed milk to make the completed dough, which is cut into pieces of desired weight. The pieces are fermented for a short time, molded into loaf form, panned, further fermented, baked for from thirty to thirty-five minutes, cooled and wrapped in wax-paper.

The factory, equipment and storage rooms are kept in strictly sanitary condition.

Chemical Composition.—

(proximate analysis)

	per cent
Moisture (entire loaf)	37.1
Ash	0.82
Fat (direct ether extraction method)	0.8
Protein (N × 6.25)	9.5
Crude fiber	0.2
Carbohydrates (by difference) other than crude fiber	51.6

Calories.— 2.52 per gram
71.6 per ounce

Claims of Manufacturer.—A bread of good quality.

LIBERTY GRADE A BREAD

A Guaranteed Milk Loaf

Manufacturer.—Liberty Baking Company, Pittsburgh, Pa.

Description.—A white milk bread made by the sponge dough method.

Manufacture.—The sponge dough ingredients, 75 per cent patent flour of Northwest wheat and 80 per cent patent flour of Southwest wheat, water, shortening, yeast, and a yeast food containing calcium sulphate, ammonium chloride, sodium chloride and potassium bromate, are mixed in a high speed mixer. The sponge dough is fermented for from four to five hours, after which are added flour, water, salt, dextrose, butter and dried skim milk to make the completed dough, which is cut into pieces of desired weight. The pieces are fermented for a short time, molded into loaf form, panned, further fermented, baked for from thirty to thirty-five minutes, cooled and wrapped in wax-paper.

The factory, equipment and storage rooms are kept in strictly sanitary condition.

Chemical Composition.—

(proximate analysis)

	per cent
Moisture (entire loaf)	33.6
Ash	0.84
Fat (direct ether extraction method)	1.6
Protein (N × 6.25)	9.8
Crude fiber	0.3
Carbohydrates (by difference) other than crude fiber	53.9

Calories.— 2.69 per gram
76.4 per ounce

Claims of Manufacturer.—A bread of good quality.

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SATURDAY, AUGUST 15, 1931

CONNECTIVE TISSUE IMMUNITY

Artificial tissue cultures of highly resistant amphibian cells were made possible by the pioneer researches of Harrison[1] of Yale University. The Harrison technic was afterward adapted to mammalian tissues by Carrel and Burrows[2] of the Rockefeller Institute, and the improved technic was applied by Carrel and Ingebrightsen[3] to a study of immune phenomena. The Rockefeller Institute immunologists showed that mammalian connective tissue cells grown in the presence of alien red blood corpuscles are apparently able to form hemolysins for these erythrocytes, the specificity and exact method of antibody formation or antibody synthesis not being determined.

Further applications of this technic to problems of immunology were interrupted by the World War. Ten years later, Fischer of the University of Copenhagen showed that, by the same method of tissue culture, mammalian connective tissues can be immunized against alien proteins. After immunization, mammalian fibroblasts multiply in alien protein concentrations that inhibit normal connective tissue growth.[4] Kimura and Ishii[5] of the microbiologic institute at Kyoto, Japan, have recently applied the same technic to a study of the immunity of artificial connective tissue cultures to bacterial toxins and snake venoms. The Japanese investigators report that artificially immunized rabbit and guinea-pig fibroblasts multiply in concentrations of the corresponding toxin sufficient to kill normal cells. In lower toxin concentrations, multiplication may be four times more rapid than in normal controls. Such humoral or cellular adaptations are not merely artificial test-tube phenomena but presumably part of the adaptive mechanism of the body as a whole. This is indicated by earlier demonstrations of a similar heightened toxin resistance of tissues removed from immune animals.

Little evidence is available as to the possible relation of connective tissues to anaphylaxis. It is currently reported by Barg[6] of the bacteriologic institute at Kiev that cultures of the spleen and subcutaneous tissues of hypersensitive guinea-pigs and rabbits show no demonstrable sensitivity to specific foreign proteins. The growth rate is apparently neither accelerated nor retarded in the presence of the corresponding foreign protein, nor is there a demonstrable change in sugar metabolism as compared with control normal tissue cultures. Barg was forced to the conclusion that, while the complete mechanism of connective tissue immunity is present in artificial connective tissue cultures, the mechanism of specific protein sensitivity is absent or incomplete. The allergic reaction, therefore, must be mediated by some factor or condition not present in artificial tissue growths. Barg sought this unknown allergic factor in the nerve cells or capillary circulation, neither of which is represented in mammalian tissue cultures.

If confirmed, Barg's experiments will furnish one of the most striking demonstrations of the nonidentity of "anaphylaxis" and immune phenomena. This conclusion is in harmony with recent clinical studies. About three years ago, it was shown by Rich[7] of Johns Hopkins University that "sensitivity" has no invariable diagnostic relationship with specific immunity. According to his clinical evidence, the allergic reaction indicates neither a specific lowering nor a specific increase in normal resistance, though either change may conceivably be present as an accompanying phenomenon. Such conclusions, of course, are drawn from a study of complex antigens of clinical significance, with a possibility of an altered interpretation with unit antigens or unit immunologic determinants.

Many grammatical or linguistic inconsistencies and paradoxes have resulted from the early clinical assumption that "anaphylaxis" and immunity are physiologic variations in the same basic mechanism, sensitivity being due either to a specific lowering of normal resistance (*ana*, without; *phylaxis*, resistance) or, as later experimenters postulated, to a specific though clinically inadequate increase in normal resistance. To avoid such grammatical puzzles it might be advisable to delete the word "anaphylaxis" from clinical nomenclature and formally to adopt the nonimmunologic term "allergy" or "sensitivity." "Allergy" thus becomes a reliable diagnostic index of heightened humoral or cellular reactivity,[8] conceivably due to or associated with a specific acceleration of alien protein denaturization,[9] with no implication as to whether or not that increased reactivity functions to the specific advantage or disadvantage of the individual.

1. Harrison, R. G.: Proc. Soc. Exper. Biol. & Med. **4**: 140, 1907.
2. Carrel, Alexis; and Burrows, M. T.: Cultivation of Adult Tissues and Organs Outside the Body, J. A. M. A. **55**: 1379 (Oct. 15) 1910.
3. Carrel, Alexis; and Ingebrightsen, R.: J. Exper. Med. **15**: 287, 1912.
4. Fischer, A.: J. Exper. Med. **35**: 661, **36**: 535, 1922.
5. Kimura, R., and Ishii, T.: Ztschr. f. Immunitatsforsch. **67**: 111, 1930.
6. Barg, G. S.: Mikrobiol. J. **8**, number 3, 1929; Zentralbl. f. Bakt., Ref. **97**: 186, 1930.
7. Rich, A. R.: The Rôle of Allergy in Tuberculosis, abstr. Arch. Path. **7**: 553 (March) 1929.
8. Besredka, A.: Le choc anaphylactique et le principle de la desensibilisation, Paris, Masson et Cie, 1930, chap. 7, p. 263.
9. Manwaring, W. H.; Marino, H. D.; McCleave, T. C., and Boone, T. H.: J. Immunol. **13**: 357 (May) 1927.

HYPOGLYCEMIA

As soon as modern blood chemistry made the estimation of sugar in the circulating fluid of the body comparatively easy, abnormalities of the dextrose content were readily recognized and taken into account in the diagnosis of possible existing disorders. Thus, hyperglycemia has become a familiar indication of a disturbance in the metabolism of carbohydrates in the organism. The determination of the blood sugar level is of noteworthy importance in clinical medicine today, being a helpful guide in the diagnosis, treatment and prognosis of diabetes in particular. The study of the blood has to a considerable extent superseded urinary analysis; at any rate it supplements the latter by furnishing information that the urine may often fail to afford.

The converse of an augmented sugar content of the blood, namely, hypoglycemia, is only beginning to attract the attention that it seems to deserve from physicians. Instances of its importance are attached in the first place to the increasing recognition of cases of hyperinsulinism. Overdosage with insulin may result in sudden and severe manifestations of profound weakness, diaphoresis, mental confusion, diplopia, muscular tremblings, and convulsions of an epileptiform character. It appears that such untoward manifestations are by no means limited to persons who have actually received injections of insulin in undue amounts. Instances of hypoglycemic shock may arise independently under conditions for which the term "dysinsulosis" has been suggested.[1] In a recently described case a woman complained of symptoms typical of hypoglycemic shock; studies of her carbohydrate metabolism yielded results similar to those in the reported cases of pancreatic hypoglycemia, and she was completely relieved by the frequent ingestion of foods containing carbohydrate.

The spontaneous occurrence of hypoglycemia may be associated with the most diverse clinical states. For this reason it seems timely to take stock of our current information in a field of growing importance to the physician. According to Gammon and Tenery,[1] who have recently prepared a critical review of the subject, hypoglycemia may result from several types of abnormal mechanisms: (1) from disturbance of carbohydrate control (*a*) through overproduction of insulin by hyperfunction, hypertrophy or tumor of the islets or (*b*) through loss of the substances that are antagonistic to insulin, as in hyposuprarenalism, hypothyroidism, pituitary dysfunction or combinations of these; (2) from interference with storage or release of glycogen in the depots of the body—the liver and muscles—or from depletion of glycogen from physical effort; (3) from conditions in which dextrose is lost from the body as such; e. g., in renal diabetes, or as other sugar, e. g., in lactation. The most important cause, by far, is that of overproduction of insulin. As an illustration of the importance of the newer knowledge, Gammon and Tenery point out that the point of distinction between hypoglycemic seizures and other convulsive states rests on the depressed blood sugar level. A history of relief from the ingestion of food often suggests the clue to the derangement. Hypoglycemia has become a recognizable symptom that challenges careful consideration.

1. Gammon, G. D., and Tenery, W. C.: Hypoglycemia, Arch. Int. Med. **47**: 829 (June) 1931.

IMPORTANCE OF WATER

Water has long been recognized as an indispensable factor in the normally functioning organism. To be sure, the required quantities vary widely from the relatively large volumes consumed by a lactating mammal to the minute quantities which satisfy certain larvae and which are provided by the so-called metabolic water arising from the combustion of hydrogen. Recent studies of Jackson and Smith[1] have emphasized again the fundamental part played by water in animal economy. These investigators fed to young rats a ration that was complete in every way except that the quantity of water was limited. The experiment extended for periods of from 136 to 226 days and included the portion of the life cycle of the rat during which most rapid growth ordinarily takes place. In these studies the deprivation of water caused an absolute cessation of growth, the body weight being maintained at a markedly uniform level throughout the experimental period. The restriction of water intake was accompanied by a voluntary decrease in food consumed. When this factor was suitably controlled, however, it was found that there took place certain changes in organs, the most uniform being a dehydration. Under these conditions the skeleton showed a definite tendency to continue to grow, as in retarded growth due to other dietary deficiencies. On the basis of these observations, there is little room to doubt the extreme importance of water in the physiologic economy of the growing animal.

The significance of water has been emphasized, further, by some of the newer biochemical investigations of pathologic conditions. In an extensive series of experimental studies, Blalock and his associates[2] have attempted to account for the decrease in blood pressure in the shock following trauma to the intestine, trauma of the extremities and severe burns. Under these conditions there is in the traumatized tissues or those beneath the burned area a collection of fluid amounting to from 1.6 to almost 4 per cent of the body weight. A chemical analysis of this fluid showed that the content of chloride, sugar, nonprotein nitrogen and protein was approximately the same as that of blood plasma. Apparently under local influences incident to the tissue

1. Jackson, C. M., and Smith, V. D. E.: Am. J. Physiol. **97**: 146, 1931.

2. Blalock, Alfred: Experimental Shock, Arch. Surg. **22**: 598, 610 (April) 1931. Beard, J. W., and Blalock, Alfred: Ibid., p. 617. Johnson, G. S., and Blalock, Alfred: Ibid., p. 626. Harris, P. N., and Blalock, Alfred: Ibid., p. 638.

injury the capillaries become permeable to plasma proteins, the osmotic pressure of the blood is thereby decreased, and the volume is diminished. The characteristic drop in blood pressure is thus accounted for. Under these conditions the blood volume is augmented little, if any, by a movement of water from uninjured tissues to the blood. The argument of the Vanderbilt investigators is enhanced by the records of similar changes in pressure brought about by withdrawal of plasma from the general circulation without the accompanying circumstance of tissue injury. These studies supplement those of Underhill,[3] who showed, among other things, the surprisingly large portion of available body water that could be withdrawn from the systemic circulation and localized in tissues injured by burns.

For obvious reasons, attention is usually drawn to the oxygen-carrying capacity of the blood. But the functional importance of a normal volume cannot be disregarded. As Rowntree and Brown [4] have pointed out, variations in volume are usually accounted for by changes in cells rather than by variations in plasma. "The plasma volume constitutes one of the most striking and significant so-called constants of the body." Furthermore, clinical experience would place quite as large a significance on hemodynamics as on the respiratory aspect of the blood. It appears, therefore, that an abnormal distribution of water is a troublesome situation; its presence is embarrassing in the tissues where localized and its absence from the blood vessels results in physicochemical disturbances. Investigation is continually demonstrating the basic part this fluid plays in the etiology of various pathologic conditions as well as in the physiology of growth.

Current Comment

CULTIVATION OF "COMMON COLD" VIRUS

The growing conviction that "common colds" are not due to any micro-organism thus far included in commercial vaccines, but to an unknown filtrable virus or group of viruses, is strengthened by the currently reported successful cultivation of bacteria-free pathogenic nasal filtrates. Dochez and his co-workers [5] at Columbia University, however, do not present this as final proof of the etiology of "common colds" but merely as a report of progress in their research. The investigators first studied the survival of their bacteria-free, nasal filtrates outside the human body. Positive takes were obtained in both chimpanzees and human volunteers with "common cold" filtrates stored at room temperature or in the icebox for thirteen days, tests beyond the thirteenth day not being made. The thirteenth day survival showed the feasibility of attempted cultivation. The culture method adopted by the Dochez group was the Li and Rivers [6] modification of the Maitland technic. Ten day chick embryos were hashed and suspended in a special buffered bouillon, containing 0.05 per cent of cysteine hydrochloride. The embryonic tissue suspensions were inoculated with the pathogenic filtrates and incubated at 37 C. under petrolatum seal, transfers to subcultures being made every four days. The subcultures remained pathogenic for fifteen generations, the final generation thus far tested. The fifteenth generation subculture, for example, induced typical colds in two of three human volunteers. The evidence presented by this positive test indicates conclusively that the filtrable agent associated with "common colds" multiplies or is multiplied in the embryonic tissue medium. The final dilution of the original material is so great (1:1,000,000,000,000,000) as to rule out the presence of any significant amount of the original virus. Negative reactions were, of course, obtained with uninoculated tissue mediums.

VACCINES AND NONSPECIFIC THERAPY

Nonspecific vaccine therapy, or the attempted favorable modification of normal resistance by the injection of foreign proteins or other hetero-antigens, is not without its possible disadvantage to the patients. It may give rise to results directly contrary to clinical hopes. Recently Nukada and Kako [7] of the Teikoku Medical Clinic, Tokyo, immunized rabbits to a wide range of hetero-antigens and tested them from five to twenty days after the final immunizing dose with a multiple lethal dose of pneumococci (1 cc. of twenty-four hour broth culture per kilogram of body weight, injected intravenously). With certain heterovaccines, particularly with pyocyaneus, with "whooping cough" vaccines, a distinct collateral increase in normal pneumococcus resistance was observed, the average clinical duration of the multilethal pneumococcus infections (or intoxication) being prolonged as much as 100 per cent, with a small percentage of recoveries. With a number of other vaccines, however, particularly with vaccines of the colon-enteritidis group, no change in pneumococcus resistance was noted, all vaccinated animals dying synchronously with their controls, in from fifteen to twenty hours after the pneumococcus test. Certain heterovaccines, particularly casein, meningococcus, staphylococcus and "influenza" bacilli, gave the unexpected and apparently paradoxical result of a distinct or even marked lowering in collateral pneumococcus defense, death from their routine test dose being hastened. Half of these vaccinated rabbits died within ten to twelve hours. The maximum subimmunity was apparently not reached till about three weeks after the final vaccination dose. There are suggestive hints in these reported results as to the etiology of post-influenzal sequlae, provided, of course, one assumes that *B. influenzae* is the causative agent in this disease. The work is of particular importance, however, in emphasizing the inadequacy of present theories of immunity.

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4. Rowntree, L. G., and Brown, G. E.: Volume of Blood and Plasma, Philadelphia, 1929.
5. Dochez, A. R.; Mills, Katherine C., and Kneeland, Yale, Jr.: Proc. Soc. Exper. Biol. & Med. **28**: 513 (Feb.) 1931.
6. Li, C. P., and Rivers, T. M.: J. Exper. Med. **52**: 465 (Oct.) 1930.
7. Nukada, S., and Kako, Y.: Ueber die Schwankungen der Resistenz gegen Pneumokokkeninfektion nach Immunisierung mit Heterobakterien, Ztschr. f. Immunitätsforsch. **67**: 83, 1930.

Association News

MOTION PICTURES

The Committee on Motion Pictures of the American Medical Association is investigating the available motion pictures on medical and health subjects. Pictures for physicians and medical students, as well as for lay audiences, will be included.

While many films have been reported by the motion picture industry, there are numerous other pictures which have been taken and developed by private physicians, of which there is no record. It is desired to obtain as complete a list as possible of such material. Physicians who have not already done so are requested, therefore, to send in the names of the motion picture films they have made. Even though only one print of the film is in existence, if it is of merit it should be reported. Please communicate with the director of the Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago.

MEDICAL BROADCAST FOR THE WEEK

American Medical Association Health Talks

The American Medical Association broadcasts at 10 a. m. on Monday and 10:30 a. m. on Saturday, over Station WBBM (770 kilocycles, or 389.4 meters).

The program for the week is as follows:

August 17. The Truth Shall Make You Free.
August 22. The Cause and Prevention of Pellagra.

Five minute health talks may be heard over the Columbia Broadcasting System on Monday, Wednesday, Thursday and Saturday, from 1 to 1:05 p. m., Chicago daylight saving time.

The program for the week is as follows:

August 17. Marathonitis.
August 19. Will Your Child be Ready for School?
August 20. Uncle Sam Stands Guard.
August 22. Gaining the Child's Confidence.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Full Time Health Units Established.—Three of Arizona's fourteen counties are to have full time health units for the first time, with the aid of the funds distributed by the U. S. Public Health Service and the Rockefeller Foundation, amounting to $20,750. In addition, the legislature has set aside $15,000 for child hygiene work. Yuma County's health unit was opened, August 1, with Dr. Harry A. Reese, Yuma, in charge. Within a few weeks, full time units will also be in operation in Cochise County, under Dr. Raphael B. Durfee, Bisbee, and in Coconino County, under Dr. George Felix Manning, Jr., Flagstaff.

COLORADO

Society News.—Dr. Lee Bast, Delta, addressed a recent meeting of the Delta County Medical Society on treatment of sinus infection.——The Northwestern Colorado Medical Society was addressed, July 23, at Hayden, by Dr. William Bernard Yegge, Denver, on "Pathologic Conditions of the Liver and Gallbladder," and Dr. Henry H. Dixon, "Mental Hygiene in Children of the Preschool Age."——Severance Burrage, Ph.D., Denver, addressed the Otero County Medical Society, June 11, on sporotrichosis.

Society to Honor Library Benefactors.—A special meeting of the Medical Society of the City and County of Denver will be held, August 25, in the auditorium of the Capitol Life Insurance Company Building, in honor of past benefactors of the medical library. The address of welcome will be given by Mr. C. J. Daly, president of the Capitol Life Insurance Company, and the presentation of a flag from the medical society to the life insurance company will be made by Dr. William A. Sedwick. Engrossed resolutions will be presented in behalf of the medical society by Dr. Melville Black. Dr. Robert Levy will address the meeting on "Reminiscences of Old-Time Practitioners of Medicine in Colorado," and Dr. Henry Sewall, "The Future of the Medical Society and Its Library."

State Medical Meeting at Colorado Springs, September 15-17.—The sixty-first annual meeting of the Colorado State Medical Society will be held at Colorado Springs, September 15-17, under the presidency of Dr. William A. Hickland, Fort Collins. The guest speakers will include Drs. Fred M. Smith, Iowa City, "Clinical Manifestations and Treatment of Coronary Artery Disease"; Louis E. Viko, Salt Lake City, "Cardiac Asthma"; Arthur J. Cramp, Chicago, director, Bureau of Investigation, American Medical Association, "Patent Medicines and Public Health"; Henry S. Plummer, Rochester, Minn., "Adenomatous and Exophthalmic Goiter," and Ralph H. Major, Kansas City, Mo., "Chronic Nephritis." A symposium on the arthritides will be conducted by Drs. Lorenz W. Frank, Clough T. Burnett, Charles E. Sevier and Charles N. Meader, all of Denver. An extensive program will be presented by many Colorado physicians. The annual golf tournament will be held Tuesday afternoon at the Broadmoor Golf Club, and other entertainment is being arranged.

GEORGIA

Society News.—Dr. Trimble C. Johnson, Atlanta, read a paper on "A Study of Intestinal Toxemia as Related to Asthma, Arthritis, Psychoses, Epilepsy, Anemia, Headache and Dermatitis" before the Fulton County Medical Society, July 16. Dr. William L. Funkhouser, Atlanta, addressed the society, August 6, on "Parenteral Infection in Infantile Diarrhea."——The First District Medical Society was addressed, July 29, among others, by Drs. Allen H. Bunce, Atlanta, on problems in the differential diagnosis of abdominal conditions, and George Herrmann Lang, Savannah, treatment of the accessory sinuses of the nose.

MARYLAND

License Revoked.—The license of Dr. Vincenzo Reno, formerly at Union Hill, N. J., and recently reported at Baltimore, was revoked, May 14, by the state board of medical examiners. This license had been issued on the basis of Dr. Reno's New Jersey license, which was revoked, July 30, 1930, by the New Jersey Board of Medical Examiners because of alleged false statements in his credentials.

MASSACHUSETTS

Personal.—Dr. Frederic J. Cotton has resigned as senior surgeon-in-chief of the Boston City Hospital, effective July 1, after twenty-nine years' service. Dr. David D. Scannell has been appointed to succeed him.

Dr. Otis Honored.—Dr. Edward O. Otis, Exeter, N. H., and formerly of Boston, was recently honored by more than 100 physicians, nurses and health workers at a special meeting at the headquarters of the Boston Tuberculosis Association to commemorate the fiftieth anniversary of his service in that field. Dr. Otis, who is an honorary president of the Massachusetts Tuberculosis League and a former president of the National Tuberculosis Association, was presented with a purse of gold on behalf of the league. Speakers on this occasion included Drs. Frederick T. Lord, George H. Bigelow, state commissioner of health, and John B. Hawes II. Dr. Otis, who is 83 years old, is also professor emeritus of pulmonary diseases and climatology at Tufts College Medical School.

MICHIGAN

Hospital News.—Dr. George F. Inch is superintendent of the new state hospital at Ypsilanti, which was formally opened, July 28; it has a capacity of 1,000 beds. Among the speakers at the ceremony was Gov. Wilber M. Brucker, whose subject was "Responsibility of the State for the Care of Its Wards." Dr. Rector Philip Sheets succeeded Dr. Inch as superintendent and executive head of the Traverse City State Hospital, it is reported.

MINNESOTA

Personal.—Dr. Wilson Adolphus Allen, Rochester, aged 97, received the honorary degree of master of science recently at Franklin College, Plainfield, Ind., of which he is an alumnus.——Dr. Hyman S. Lippman, formerly of New York, has been appointed director of the St. Paul Child Guidance Clinic to succeed the late Dr. Martin L. Stiffler.

Midwife Violates Basic Science Law.—Emma Marska, alias Emma Mars, a midwife, pleaded guilty to a charge of violating the basic science law, July 8, in Minneapolis. She was sentenced to six months in the Minneapolis workhouse, the sentence being suspended on condition that she refrain from practicing healing in the state in the future. Mrs. Marska, who had her place of business at 246 Broadway, specialized in ailments of women. She formerly lived in Russia.

Society News.—The summer meeting of the Upper Mississippi Medical Society was held at International Falls, July 18. Among the speakers were Drs. Philip F. Eckman, Duluth, "Secondary Anemias"; Lawrence R. Gowan, Duluth, "Localization of Spinal Cord Tumors"; William W. Lewis, St. Paul, "Inflammatory Infection of the Middle Ear," and Paul G. Boman, Duluth, "Newer Methods of Diagnosis in Diseases of the Lung."——Dr. Franklin R. Wright, Minneapolis, addressed the Renville County Medical Society recently on "Genito-Urinary and Venereal Diseases."

Southern Minnesota Medical Association.—The annual meeting of the Southern Minnesota Medical Association will be held at Faribault, August 24. Papers to be given at this meeting will include "Sarcoma of the Jaw in a Three Weeks Old Infant, and Albuminuria in Pregnancy," by Drs. Clifford C. Leck, Austin; "Normal and Abnormal Motility Syndromes of the Upper Urinary Tract with Indications for Drug and Sympathectomy Therapy," **William P.** Herbst, Jr., Minneapolis; "Selection of Patients for Prostatectomy," Hugh Cabot, Rochester; "Injection Treatment of Hemorrhoids: Some Fallacies and Complications," Walter A. Fansler, Minneapolis; "Carcinoma of the Bronchus," Porter P. Vinson, Rochester, and "Treatment of Pneumonia," Hobart A. Reimann, Minneapolis. A feature of the session will be a school for the feebleminded with demonstration of mental cases. Other demonstrations and clinics will also be conducted.

MONTANA

State Medical Meeting and Election.—The annual meeting of the Montana State Medical Association was held in Bozeman, July 8-9, under the presidency of Dr. Leroy Southmayd, Great Falls. The scientific program consisted of papers by Drs. Harold W. Gregg, Butte, on "Early Montana Medical History"; William F. Cogswell, Helena, "What's What and Why in Public Health Work"; Ashley W. Morse, Butte, "Sinus Disease"; Caroline McGill, Butte, "Vitamins A and B"; Henry Schmitz, Chicago, "Early Diagnosis of Carcinomata, Pathologically and Clinically"; George F. Suker, Chicago, "Cardiovascular Lesions as Manifested in the Fundus Oculi"; Raymond E. Watkins, Portland, Ore., "Prolapse of the Uterus"; Faus P. Silvernale, Great Falls, "Gastro-Intestinal Disturbances in Infants"; Lloyd T. Sussex, Havre, "Clinical Diagnosis of Toxic Goiter"; Herbert H. James, Butte, "Veins and Ulcers"; Tiffany J. Williams, Great Falls, "Factors in Maternal Health"; John H. Harris, Great Falls, "Intravenous Urography"; Thomas F. Walker, Great Falls, "Heart Disease," and Richard R. Sigler, Manhattan, "Physiology of Medicine." Dr. John R. E. Sievers, Butte, was made president-elect; Dr. John H. Garberson, Miles City, installed as president, and Dr. Elmer G. Balsam, Billings, reelected secretary. The next annual session will be held at Miles City in July, 1932.

NEBRASKA

Society News.—Among speakers at a joint meeting of the Saline and Fillmore county medical societies at Exeter, June 26, were Drs. Herbert H. Davis, Omaha, on injection treatment of varicose veins, and Donald J. Wilson, Omaha, on ringworm.

Personal.—Dr. Ira N. Pickett, Odell, was the guest of honor at a testimonial dinner given by citizens of Odell on his seventy-ninth birthday, June 28. Dr. Pickett, who has been in active practice for fifty-three years, was president of the Nebraska State Medical Association in 1912-1913.

NEW YORK

Injured Pilot Develops Scarlet Fever.—It was recently reported that the first known case of scarlet fever in Westchester County that had been imported by an airplane occurred when the plane "cracked up" and the aviator was severely injured. On account of injuries he was given tetanus antitoxin and within eighteen hours developed a rash covering his body. A diagnostician from the county department of health diagnosed the condition as scarlet fever. The increasing use of the airplane as a means of transportation involves added responsibility for the health officer in the control of communicable diseases.

Medical Meeting at Lake Keuka.—The thirty-second annual meeting of the Lake Keuka Medical and Surgical Association, which embraces twenty-one counties of central New York, was held, July 17-18, at Lake Keuka. Among the speakers were Drs. George W. Crile, Cleveland, on "Neuro-circulatory Asthenia, Ulcer and Hyperthyroidism"; Henry H. Ritter, New York, "Traumatic Surgery for the General Practitioner"; Robert M. Cleary, Buffalo, "Modern Treatment of Anterior Poliomyelitis," and Channing Frothingham, Boston, "A Classification of Nephritis upon an Anatomical Basis." Dr. John E. Wattenberg, Cortland, was elected president and Dr. John A. Hatch, Penn Yan, secretary, reelected. About 250 physicians attended.

Outbreaks of Paratyphoid, Smallpox and Septic Sore Throat.—An outbreak of seventeen cases of paratyphoid fever affecting fourteen families in Glen Falls was reported recently to the state department of health. The dates of onset ranged from May 29 to June 7. An investigation disclosed that all the cases were on one dairy route. Further investigation led to the discovery of a carrier of *B. paratyphosus* B on the farm furnishing milk to this firm and the supply from the farm was immediately excluded.——The report recently of a case of smallpox in Fort Edward led to an investigation which disclosed that smallpox had been prevalent there since April 26. Fifteen cases, involving six families, were found. It appeared that the cases either had not required medical attendance and so were overlooked or had been misdiagnosed.——Thirty-two cases of septic sore throat had been reported up to June 19, following a church festival on June 11 at Schodack Landing. Nineteen of these occurred in Schodack Landing, one in the town of Schodack, two in the town of Stuyvesant, nine in Castleton and one in Albany. Epidemiologic evidence obtained up to June 29 indicated that homemade ice cream served at the festival was the source of infection.

New York City

Blind People Affected by City Noise.—A survey, made by the New York Association for the Blind at the request of the Noise Abatement Commission, has revealed that the effect of the city's noise on blind people makes it practically impossible for them to walk in a straight line. It was stated that the noise drowns the sound of the blind person's footsteps by which he is ordinarily guided, and the sound of the feet of other pedestrians. The survey was conducted by interviewing a large number of blind people, representing all types from the poorest to the richest and from the least skilled to the most expert at trades and professions, and by calling on the experience of workers with the blind.

New York Hospital Staff Organization Plans.—Plans for the organization of the staff of New York Hospital, whose imposing buildings on the East River between Sixty-Eighth and Seventy-First streets will be completed in 1932, were recently made public. The new plans provide for five divisions, medicine, surgery, obstetrics and gynecology, pediatrics and psychiatry. Each will be headed by a chief of staff, who will also hold an appointment in Cornell University Medical College, with which the hospital is affiliated. Each department staff will consist of a central group of physicians on a full time basis and in addition a larger affiliated group of men who are also engaged in private practice. Provision for a complete private patient section of the hospital is planned to give facilities for the practice of the latter group. Departments of public health and social service are also to be important parts in the staff organization.

Fewer Cases of Poliomyelitis.—Sixty-seven cases of infantile paralysis reported by the health department, August 8, marked a sharp decrease in the present outbreak. The high point of the outbreak was reached, August 5, with 111 cases; the two succeeding days, 103 and 96 cases, respectively, were reported. Fourteen deaths were reported, August 8, bringing the total since January 1 to 167. Since July 1, 1,279 cases have been reported to the health department. A special appropriation of $75,000 was authorized by Mayor Walker, August 4, for the use of the department in fighting the spread of the disease. Ten physicians and twenty-five nurses were added to the field force of the department. Appeals to former victims of infantile paralysis to give blood for preventive treatment have met generous response, according to the New York *Times*, Gov. Franklin D. Roosevelt having been one of the first to give a pint of blood.

Graduate Courses in Neurology and Psychiatry.—Three courses in neurology and psychiatry are to be offered during the coming academic year to graduate students and other professional groups interested in these subjects by Columbia University College of Physicians and Surgeons in collaboration

with the Neurological Institute of New York and the New York State Psychiatric Institute and Hospital. During the ten weeks from September 28 to December 5, two alternate series of courses, one devoted principally to psychiatry and the other principally to neurology, will be offered. Among the officers of instruction will be Drs. Abraham A. Brill, Louis Casamajor, Charles A. Elsberg, Bernard Glueck, Samuel T. Orton and Frankwood E. Williams. Beginning Jan. 25, 1932, a semester course in neuropathology will be given by Dr. Armando Ferraro, research associate in neuropathology at the Psychiatric Institute and Hospital. Information concerning these courses may be obtained from Dr. Howard W. Potter, Psychiatric Institute, 722 West One Hundred and Sixty-Eighth Street, New York City.

Recommendations About Postmortem Examinations.—Recommendations designed to bring about cooperation between hospital authorities and funeral directors in the matter of postmortem examinations are set forth in the report of a joint committee representing the New York Academy of Medicine, the New York Pathological Society and the Metropolitan Funeral Directors' Association. The committee urges that hospitals avoid unnecessary delays in obtaining permission for necropsies, that they should obtain necessary data for a death certificate when a patient is admitted, and that they arrange to inform funeral directors promptly when bodies are ready. The funeral director on his part must recognize the obligation of the hospital to obtain permission from the family of the deceased for an examination. He must present to the hospital acceptable written authority from the family to take charge of a body. Other recommendations concern the selection of funeral directors by hospital authorities, reports of death to the medical examiner, and the technic of necropsy. It is suggested that an embalmer should be present at the examination. Finally, the committee recommends the appointment of a continuing joint committee representing the same organizations with the addition of a representative of the hospital executives. The report was approved by the council of the New York Academy of Medicine.

OHIO

Society News.—Dr. Louis H. Segar, Indianapolis, addressed the Preble County Medical Society, Eaton, June 17, on recent advances in pediatrics.——Dr. Paul M. Holmes, Toledo, addressed the Wood County Medical Society, Bowling Green, June 18, on duodenal stasis.——The Seventh Councilor District Medical Society held its annual meeting at Steubenville, June 25, with the following speakers: Drs. John D. Garvin, Pittsburgh, on "The Stomach and Dyspepsia"; Frederick M. Jacob, Pittsburgh, "Premalignancies and Malignancy of the Skin"; William N. Taylor, Columbus, "Urinary Calculi," and Theodore Diller, Pittsburgh, "The Devil and Witchcraft."——At the semiannual meeting of the Eighth Councilor District Medical Society, McConnellsville, June 18, the following scientific papers were presented: Drs. George I. Nelson, Columbus, "Diseases of the Heart"; Samuel D. Edelman, Columbus, "Tuberculosis in Children," and Russell B. Bailey, Wheeling, W. Va., "Nontuberculous Diseases of the Lungs."——Dr. William D. Inglis, Columbus, addressed the Knox County Medical Society, Mount Vernon, June 25, on "Pre-eclampsia and Eclampsia."

RHODE ISLAND

Dr. Miller Receives Fiske Fund Award.—Dr. Albert H. Miller, associate editor of the *Rhode Island Medical Journal*, Providence, was recently awarded the Fiske Fund Premium for his essay entitled "Anesthetics—Their Relative Values and Dangers." Established ninety-six years ago by the will of Dr. Caleb Fiske, one of the early presidents of the Rhode Island Medical Society, the fund provides for an award to the author of the best essay submitted each year and for the subsequent publication of the essay.

TENNESSEE

Society News.—Dr. James E. Cottrell, Philadelphia, addressed the Knox County Medical Society, Knoxville, July 21, on management of diabetes.——Dr. William R. Arrants, Athens, among others, addressed a joint meeting of the medical societies of McMinn, Monroe, Roane and Loudon counties at Athens, July 30, on "Syphilis from the Standpoint of the General Practitioner."

Dr. Ellington Goes to Panama.—Dr. Jesse C. Ellington, Kingsport, who has been connected with the state department of public health for the past three years as relief county health officer, epidemiologist and recently director of a special study of tuberculosis control, has resigned to accept an appointment as health officer of Cristobal-Colon, a division of the health department of the Panama Canal. This position is under the supervision of the chief health officer, Col. Joseph F. Siler. Dr. Ellington was graduated from Vanderbilt University School of Medicine in 1925.

Dr. Ray Becomes President of State Association.—Dr. Thomas R. Ray, Shelbyville, succeeded to the presidency of the Tennessee State Medical Association following the death of Dr. Robert Caldwell, Nashville, July 26. Dr. Ray was vice president of the association for middle Tennessee and became president by virtue of a by-law of the association which provides that, if the president dies, the vice president for the section of the state in which the president lived shall succeed him.

Health at Nashville.—Telegraphic reports to the U. S. Department of Commerce from eighty-two cities with a total population of 36 million, for the week ended August 1, indicated that the highest mortality rate (17.4) appeared for Nashville, and the rate for the group of cities as a whole, 10.7. The mortality rate for Nashville for the corresponding period last year was 18.6, and for the group of cities 10.9. The annual rate for eighty-two cities for the thirty-one weeks of 1931 was 12.6, as against a rate of 12.5 for the corresponding weeks of 1930. Caution should be used in the interpretation of weekly figures, as they fluctuate widely. The fact that some cities are hospital centers for large areas outside the city limits, or that they have a large Negro population, may tend to increase the death rate.

TEXAS

Society News.—Dr. Samuel E. Thompson, Kerrville, was reelected president of the Southwest Texas District Medical Society at its semiannual meeting in Kerrville, July 13-14. About 175 physicians attended the meeting.——The Tarrant County Medical Society was addressed, July 7, by Drs. Thomas H. Thomason on "Streptococcic Peritonitis," Clarence C. Garrett, "Intravenous Reactions," and Dewitt Neighbors, "Undulant Fever."——A Texas chapter of the Pan-American Medical Association was formed at a meeting of Dallas and Fort Worth physicians, July 14. Officers elected were Drs. John O. McReynolds, Dallas, president; Leopold H. Reeves, Fort Worth, vice president, and Arthur H. Flickwir, Fort Worth, secretary-treasurer.

VIRGINIA

State Sanitation Campaign.—Prince George County won the first prize of $500 in the three year sanitation campaign, which ended, June 1. Powhatan County came second, and Hanover County third. Factors in the campaign were sewage disposal, safe water, adequate screening and fly control. The final score for Prince George County was 65.21 out of a possible 100 per cent.

WEST VIRGINIA

Society News.—Drs. Raymond M. Sloan and William Byrd Hunter, both of Huntington, addressed the Logan County Medical Society, Logan, June 24, on summer diarrheas.——Dr. Harvey G. Beck, Baltimore, addressed a joint meeting of the medical societies of Monongalia and Preston counties, Hopemont, July 14, on diagnosis and treatment of chronic constipation.——Dr. Earl Bennette Henson, Charleston, gave an address on plastic and reconstructive surgery before the Mercer County Medical Society, Princeton, June 19.——Drs. Eldon A. Amick and Grattan G. Irwin, both of Charleston, addressed the Central West Virginia Medical Society, Webster Springs, July 23, on "Pyelitis in Infancy and Early Childhood" and "The Diseased Prostate," respectively.

WYOMING

State Medical Meeting and Election.—The twenty-ninth annual meeting of the Wyoming State Medical Society was held at Rawlins, July 13-14, under the presidency of Dr. Emory L. Jewell, Shoshoni. The scientific program consisted of papers by Drs. James Rae Arneill, Denver, on "Mistakes and Difficulties in Abdominal Diagnosis"; Paul James Connor, Denver, "Endocrines"; Rodney H. Jones, Denver, "Aschheim-Zondek Test for Pregnancy"; John R. Nilsson, Omaha, "Fractures"; Nathan H. Einhorn, Midwest, "Report of Child Welfare Work in the Midwest Oil Fields"; Nolie Mumey, Denver, "Injection Treatment of Varicose Veins and Thyroid"; Philip Hillkowitz, Denver, "Laboratory Diagnosis of Syphilis"; William H. Stokes, Omaha, "Fundus Studies of the Eyegrounds in Vascular Lesions"; Josef F. Replogle, Lander, "Our Need of Basic Science Law"; Clyde A. Roeder, Omaha, "Intestinal Obstruction"; John B. Potts, Omaha, "Asthma Secondary to

Focal Infection," and William Andrew Bunten, Cheyenne, "Sympathetic Surgery." Dr. Osgoode S. Philpott, Denver, conducted a dermatologic clinic. Dr. Robert H. Sanders, Rock Springs, was installed as president of the society at this meeting, and Dr. Frederick L. Beck, Cheyenne, made president-elect; Dr. Edwin Earl Whedon, Sheridan, was reelected secretary. The next annual session will be held at Rock Springs.

GENERAL

Society News.—The Labat Alumni Association of Regional Anesthesia was recently organized in New York with a limited membership. Dr. Albert M. Judd, New York, is president of the association, and Dr. Marius B. Greene, Brooklyn, secretary.

Prevalence of Typhoid.—Scattered cases of typhoid in various cities and states have been reported in newspapers recently. Nineteen cases came to the attention of the health department of Dallas, Texas, in the two weeks ended July 19. In Richmond, Va., five cases led the city health commissioner to warn against swimming in the James River. Seven cases had been reported to the health department in Daviess County, Ky., from early June up to July 16. A minor outbreak of eight cases occurred in Sullivan County, Tenn., and ten cases were noted in Memphis in the two weeks ended July 16. Two deaths from the disease occurred in Camden, N. J., during the week of July 13. The U. S. Public Health Service reports 700 cases in forty-six states during the week ended July 11, compared with 657 for the corresponding week of 1930.

The New American Medical Directory.—The twelfth edition of the American Medical Directory, now available for distribution, reveals interesting data concerning the trend in medical practice. A chart giving the number of physicians in each state shows a marked increase in Arizona, California, Connecticut, Florida, Minnesota, New Jersey, New York, North Carolina, Oregon and Washington, since the publication of the first edition in 1906. There has been a decided falling off in the number of physicians in Arkansas, Indiana, Kentucky, Mississippi, New Hampshire and Vermont for the past twenty-five years, some of these having fewer doctors at present than were reported a few decades ago. The following states showed an upward trend until the war, but since that time there has been a steady decline: Alabama, Georgia, Idaho, Iowa, Kansas, Maine, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, South Carolina, South Dakota, Tennessee and Wyoming. The new directory provides up-to-date biographic data on the 172,383 physicians of the United States, its dependencies and Canada. It contains the names of 11,935 physicians who were not listed in previous editions. The number of hospitals listed is 7,446; the 665 approved by the Council on Medical Education and Hospitals for the training of interns and the 353 approved for residencies in specialties are listed separately. In the recent edition there are 1,064 names of physicians listed in the foreign section, as compared with 752 in the previous edition.

Congress of Physical Therapy.—The tenth annual session of the American Congress of Physical Therapy will be held at the Hotel Fontenelle, Omaha, October 5-8. A feature of the congress will be a joint scientific session with the Omaha-Douglas County Medical Society, Tuesday evening, when Dr. Gustav Kolischer, Chicago, will speak on "The Place of Diathermy in the Cancer Problem," and Drs. Grandison D. Royston, Frank H. Ewerhardt and Melvin A. Roblee, St. Louis, will discuss "Studies in the Application of Heat Therapy in Pelvic Infections." Included among the many speakers on the program will be Drs. Victor E. Levine, Omaha, "Effect of Ultraviolet on Some Important Biologic Substances: Biologic Process of Detoxication"; Paul Roth, Battle Creek, Mich., "Effects of Radiant Energy on the Vascularity and the Functions of the Skin"; Earl D. McBride, Oklahoma City, "Pathologic and Diagnostic Aspects of Arthritis"; Henry D. Holman, Mason City, Iowa, "Physical Therapy in the Treatment of Erysipelas and Kindred Skin Infections"; Frederick H. Morse, Boston, "A Plea for Better Understanding of Colon Mechanics"; Gerrit J. Warnshuis, Cedarburg, Wis., "Clinical Factors Determining the Response of the Patient to Ultraviolet Radiation"; Fred B. Freeland, Portland, Ore., "Electrosurgery in Neoplastic Conditions"; Moses Scholtz, Los Angeles, "Established Actinic Therapeutic Modalities in Dermatology"; Norman E. Titus, New York, "Treatment of Sciatica by Physical Measures"; Laura A. Lane, Northfield, Minn., "Radium Therapy: Its Scope in Ophthalmology"; Gregg A. Dillinger, Pittsburgh, "Tonsillectomy by Electrocoagulation"; Loyd Thompson, Hot Springs National Park, Ark., "Hydrotherapy in Syphilis," and John U. Giesy, Salt Lake City, "Selection of Physical Methods in Office Practice."

FOREIGN

Dr. Jameson Appointed Dean.—Dr. William W. Jameson, professor of public health in the London School of Hygiene and Tropical Medicine, has been appointed dean of the school, succeeding the late Sir Andrew Balfour.

Fourth Oslerian Oration.—Dr. William Stobie, mayor of Oxford, delivered the fourth Oslerian Oration, July 12, on "Osler and Tuberculosis." An exhibition of Osler's writings on tuberculosis had been arranged for this occasion, which was the eighty-second anniversary of his birthday.

Graduate Course in Vienna.—The Vienna Medical Faculty will give a graduate course, September 28-October 10, on "the most important medical topics of the present time with special consideration of therapy." The fee for the course is 50 schillings (about $7). Registration may be made through the secretary of the course, Dr. A. Kronfeld, Vienna, IX, Porzellangasse 22, or at the Vienna Medical Faculty, Vienna, VIII, Schlösselgasse 22.

Society News.—The first meeting of the International Association for Preventive Pediatrics will be held at The Hague, September 7-8.——The Asociación Médica Argentina is sponsoring a medical week to be held in Buenos Aires, August 16-22.——The seventh Congress of Stomatology of French Physicians will be held in October in Paris under the presidency of Dr. Bozo. Further information may be obtained through the general secretary, Dr. A. Lattes, 54 Boulevard St. Michel, Paris.

CORRECTION

"Antirachitic Potency of the Milk of Cows Fed Irradiated Yeast or Ergosterol."—In the discussion of this article (THE JOURNAL, August 8, p. 374) the third sentence of the abstract of Dr. Harry Lowenburg's remarks should have read: "The mere question of dosage being insufficient cannot be applied universally to the children that develop rickets."

Government Services

Army Personals

Lieut. Col. Guy V. Rukke, relieved from duty in the Hawaiian Department and assigned at Letterman General Hospital, San Francisco; Capt. Lonzo R. Bice, Fort Benning, Georgia, for the convenience of the government, will proceed to his home, about August 21, and await retirement; Major Edwin L. Brackney, relieved at Walter Reed General Hospital and assigned at Mather Field, California; Lieut. Col. Harry R. Beery, relieved at Letterman General Hospital, San Francisco, and will sail about September 19 for the Hawaiian Department; Major Frederick H. Mills, on his own application is retired from active service, effective September 30, after more than thirty years' service; Major Raymond F. Longacre, having been found incapacitated for active service on account of disability incident thereto, his retirement is announced; Major Edward C. Greene, relieved at the school of aviation medicine, Brooks Field, Texas, and assigned to duty in the Panama Canal Department; Major Frederick H. Sparrenberger, for the convenience of the government, will proceed to his home and await retirement; Major Oscar A. Hansen, relieved at Fort Lincoln, North Dakota, about September 20, and assigned at Fort Omaha, Nebraska.

U. S. Public Health Service

Surg. Herbert M. Manning, relieved at Rotterdam, Netherlands, and assigned to duty at American Consulate, Bremen, Germany, about August 1; Surg. Peter J. Gorman, relieved at Warsaw, Poland, about September 30, and assigned at American Consulate, Glasgow, Scotland; P. A. Surg. Ernest E. Huber, relieved at Bremen, Germany, between August 1-16, and assigned at American Consulate, Vienna, Austria; P. A. Surg. Langdon R. White, relieved at Palermo, Italy, about September 1, and assigned at Ellis Island, N. Y.; Asst. Surg. Harold D. Lyman, relieved at Vancouver, and assigned at American Consulate, Windsor, Ontario; Surg. James E. Faris, relieved at Genoa, Italy, and assigned at Ellis Island, August 11; Medical Director Holcombe McG. Robertson, relieved at Glasgow, Scotland, October 8, and assigned at Washington, D. C.

Foreign Letters

LONDON

(From Our Regular Correspondent)

July 18, 1931.

Smallpox in England and Wales

The ministry of health has published an important review of the present position of smallpox in England and Wales, particularly with regard to prevention. Since the pandemic of 1871-1872 the disease has been considered eminently preventable in this country. It has been established that recent successful vaccination will prevent an attack or allow only a modified one if performed within forty-eight hours of exposure. However, there are rare cases in which smallpox has occurred within two or three years of successful vaccination. But in England infant vaccination has now fallen to 40 per cent of births and a mild form of smallpox ("variola minor") has become prevalent since 1922 in parts of the country, including London. Thus, while the number of notified cases of smallpox in England and Wales in 1921 was 315, that in 1922 was 973, and the rise has continued until 14,767 was attained in 1927, since which year there has been a decline to 10,967 in 1929. But the deaths attributed to smallpox have increased slightly, ranging between 7 and 53 per annum. The explanation is that the great bulk of the disease has been variola minor. Variola major is rare today because when introduced it is quickly mastered. The unvaccinated seek protection in large numbers. It is computed that, within a month of the appearance of severe smallpox introduced from the steamer *Tuscania*, 225,000 charges of lymph were issued for vaccination. The prompt isolation of cases and the vaccination and watching of all contacts have proved efficacious in the prevention of variola major. But the control of variola minor is more difficult. Because of its mildness the disease often remains undiagnosed, being mistaken for varicella. In the second place, vaccination of contacts is less readily accepted when the public realizes that the disease is not fatal or even disfiguring. In many parts of the country, refusal of vaccination is the rule. Thus, notwithstanding great efforts in contact tracing the disease continues to smolder in certain places. However, in many instances when the disease has spread to new districts it has been extinguished by prompt action of the health authorities. But once it has been established—not necessarily in epidemic form—its extinction has proved difficult if not impracticable. England and Wales are the only European country in which variola minor exists, which points to neglect of vaccination as responsible. But the fact that it is kept within bounds shows the efficiency of the public health service. The outbreaks of vaccinal encephalitis have increased the antagonism to vaccination.

The London School of Hygiene and Tropical Medicine

The London School of Tropical Medicine, founded in 1899, has undergone great development in recent years, largely in consequence of the munificent gift of $10,000,000 from the trustees of the Rockefeller Foundation to enable the University of London to establish a center of postgraduate teaching and research in the science and art of preventive medicine. The idea that preventive medicine should embrace not this country alone but the whole world led to the incorporation of tropical medicine in the scheme. Hence the palatial buildings which were opened in 1929 by the Prince of Wales are called the London School of Hygiene and Tropical Medicine. The school is probably the most complete institution of the kind in the world. The staff is organized in six main divisions: public health, biochemistry, bacteriology, medical zoology, epidemiology and vital statistics, tropical medicine. The students form three main groups. A number varying between 70 and 100 come for a course of six months in tropical medicine and hygiene. Most of these are already in or desire to enter a public medical service in the British Empire or foreign countries. In a paper read before the Royal Society of Arts, Major Greenwood, F.R.S., professor of epidemiology and vital statistics, states that the course of instruction, partly clinical, partly laboratory training, makes considerable demands on their energy because much ground has to be covered in the time. The next largest group consists of students seeking to enter public health service and intending to sit for the diploma examination in public health of the University of London. This course is longer and takes a whole year, and it is possible to present the different aspects of a problem of disease more completely—the chemical, bacteriologic, parasitologic, epidemiologic and administrative sides one after another. Thus a sound knowledge of, say, the prevention of plague is obtained from various specialists. The third group consists of students specializing in one branch, such as bacteriology or epidemiology. It includes some of the best students, many of whom are foreigners. Young as the school is, the division of epidemiology has already had subjects of thirteen countries.

The Measurement of Noise

As shown in previous letters, it is now held by some authorities that increased noises of modern civilization, particularly those due to automobile traffic, have injurious effects, particularly in the production of nervous disease. In the new buildings of the National Physics Laboratory, apparatus has been devised for the measurement of noise. Its loudness is determined by varying the strength of a standard sound until it is just "drowned" by the noise or judged to be equally loud. Measured on a scale of loudness with zero at the threshold of hearing, sounds become painful at about 130 degrees above the threshold, where each degree, known as a "decibel," is approximately the least change in loudness perceptible to the ear. The level of conversational speech is from 50 to 60 decibels above the threshold. Eighty decibels corresponds to the noise in a tube train, and in 110 decibles of noise it is almost impossible to converse, even by shouting. In street traffic and in ordinary trains the noise ranges from 50 to 70 decibels above the threshold.

Limitation of the Manufacture of Narcotics

At a meeting of the committee on limitation created by the conference on the manufacture of narcotic drugs, Sir Malcolm Delevinge announced on the part of Great Britain that it had not been possible to frame an agreed text combining the Franco-Japanese and British proposals. The Franco-Japanese proposals were then adopted as a basis of discussion by 14 votes to 2. They are as follows: No country may manufacture during one year a quantity greater than (1) the quantity of narcotics necessary for its scientific and medical needs; (2) a reserve equal to half the preceding also for domestic requirements; (3) the quantity necessary for conversion, either for domestic consumption or for export; (4) the quantity necessary for export based on firm orders received for export certificates in accordance with the Geneva convention; (5) the quantity necessary to maintain under government control a special stock, which may be renewed as deliveries are effected. Any quantity in excess, whatever its origin—imports, seizures, canceled orders, underdeliveries or returned deliveries—shall be deducted from the quantity to be manufactured during the following year.

Criticism of the Mental Treatment Act

As stated in previous letters, the mental treatment act of 1930 allows the treatment of psychopathic patients in hospitals and homes without the certification of insanity. The stigma of certification previously was an obstacle to early treatment in institutions, at the period of the best prospects of benefiting the patient. Therefore the act was an important advance. However, the National Society for Lunacy Reform is far from satis-

fied. In its report for 1930, just published, it is alleged that the act does not touch the fundamental evils of wrongful certification and detention but, on the contrary, will create new evils by placing under lunacy control persons whose detention is unjustifiable, and this without certificate or legal safeguard. The contention of the minister of health to a deputation of the society, that it is the legal act of certification and not detention in a psychopathic hospital which is a grave stigma, is described as utterly mistaken, and it is held to be a public duty to insist that the act schall not be operated until suitable homes have been provided for the new type of case. The society proposes to press for this by the introduction of a simple bill in parliament providing safeguards against wrongful certification. The report also refers to "the grave danger which at present lies in the almost uncontrolled power of physicians to send sensitive persons into surroundings calculated to produce insanity" and alleges that "patients are detained in public institutions because they are, in effect, unpaid members of the staff." It is a curious commentary on this alleged "uncontrolled power of physicians" that the danger of being saddled with the expenses of a legal action for wrongful certification, even though this fails, is so great that many physicians decline to have anything to do with certification.

Permanent Tracheostomy

At the Section of Laryngology of the Royal Society of Medicine, Sir St. Clair Thomson read an important paper on permanent tracheostomy in stenosis of the larynx and showed a series of cases in which it had been successful. The stenosis was due to various causes—malignant disease, trauma, bilateral laryngeal paralysis, tuberculosis, syphilis, lupus and laryngofissure, which was repeated for recurrence of growth. A study of tracheotomy had impressed him with some paradoxes. It was usually done reluctantly; often it was delayed until it was difficult and even useless to do, and sometimes it was imperfectly done. Also the cannula was often taken out too soon. Most cases of stenosis were due to a badly performed tracheotomy, and the first step to correct a stricture was often a proper tracheotomy performed at the right level. Bronchitis was commonly held to be a direct result of wearing the tube and inspiring cold air through it, but this was not his experience; none of his patients suffered from it. The tube orifice could be concealed behind the neck wear, and removal for inspection and cleaning was necessary only every three months. With the speaking valve attachment the voice was easily produced and was often normal. One woman, now aged 87, had worn the tube for seventy years and never had bronchitis. The common mistake was to divide the first ring of the trachea or even the cricoid, thus introducing the cannula into the narrower and sensitive subglottic region.

In the discussion, the other laryngologists endorsed Sir St. Clair Thomson's views, but Professor Portmann of Bordeaux said that he had found many men with stenosis following war wounds. He did tracheostomy and cleared away the cicatricial tissue. After the stenotic process had ceased he did a plastic operation, which he thought was preferable to the patient always wearing a tube.

Oversea Tour of Examiners of Royal College of Surgeons

For the first time the examination for the primary fellowship of the Royal College of Surgeons of England will be held in Australia, as the result of an application to the council from the Royal Australian College of Surgeons. Twenty-four candidates have entered for the examination, which begins in Melbourne, August 11. Prof. A. W. Wright (anatomist) of the London Hospital Medical College and Prof. G. A. Buckmaster, emeritus professor of physiology in the University of Bristol, have left for Australia. They will return by way of Canada, where they will for the third successive year conduct the primary fellowship examination, which will begin in Toronto, October 20.

PARIS

(From Our Regular Correspondent)

June 24, 1931.

Medicolegal Aspects of Automobile Accidents

The subject of automobile accidents is considered from the medicolegal point of view in an important communication presented by Dr. Simonin, associate professor of the Faculté de médecine de Strasbourg. He brings out that, in the mortality tables, the automobile plays a more important part than many infectious epidemics. In 1930, more than 3,000 persons were killed in France by automobiles, and the number of persons injured amounts to some 120,000, many of whom are destined to carry their infirmities throughout the remainder of their lives. Account must be taken, it is true, of the constant increase in the number of cars employed and of the number of accidents in proportion to the number of cars being driven. One obtains thus a coefficient of the social adaptation of the country to automotive transportation. In France the number of fatal accidents per hundred thousand automobiles in use was 225 in 1924, 222 in 1926, 207 in 1928 and 218 in 1929, which shows that the people are becoming more cautious and that the automobilists are becoming more prudent. France appears to be the country in which accidents are proportionately least numerous and in which the people are adapting themselves most rapidly.

Forty-eight per cent of the accidents are due to the fault of the driver and 46 per cent to the fault of the victim. As possible causes one must consider also defects in the roadbed and also defects in the construction of the cars. The accidents chargeable to the driver may be classed under one of the following four categories: imprudence, inexperience, physical or mental infirmities, intemperance. The author emphasizes especially one form of imprudence: speeding. He points out that the psychomotor reactions prevent the driver under such circumstances from stopping his car instantaneously. Distraction, emotional disturbances, nervousness, rashness and inattention are further factors making for accidents. Pedestrians are, in some cases, responsible for the accident. Those who expose themselves most to the dangers of street traffic are characterized by inattention, carelessness or recklessness, hesitation in crossing a street or ignorance of traffic rules. These are the classes that are being constantly run down: infirm elderly persons, deaf persons, children, rustics, savants, intoxicated persons. An accident to a pedestrian usually involves three stages; for the victim is commonly struck while standing: the forcible impact, falling or projection, passing of the car over the victim or, not infrequently, dragging of the victim.

From the standpoint of their frequency and their etiologic peculiarities in relation to the several stages of the accident, the lesions observed in traffic accidents present great medicolegal interest. One must distinguish: (1) impact lesions at the point of the contact: on the legs, the thighs, the hips, the loins, and consisting of ecchymoses, contusions, direct fractures; lesions the aspect and the gravity of which are in relation to the form of the percussive agent and to the violence of the traumatism; (2) lesions due to a fall or projection, consisting of surface injuries generally benign, and of cranial injuries—often fatal, which make the fall one of the most redoubtable stages of the accident. When the victim is suddenly swept off his feet, his head often strikes violently the pavement or the ground. An ecchymotic contusion of the scalp, an epicranial suffusion and often one or more cranial fissures, radiating to the base, with meningeal hemorrhage and foci of cerebral contusion, caused directly or by contrecoup, and (3) lesions due to the passing of the car over the body, characterized essentially by the disproportion between the external lesions, nearly always insignificant, and the internal injuries, which may be considerable: crushing of bones, lacerations, rupture of viscera. Peculiar are the subcutaneous detachments, with the blood

pockets or the serosanguineous collections. Occasionally one may observe the pulling out of muscular fibers from the gluteal muscles. The deep lesions differ according to the region of the body that the car crosses, whether cephalic, thoracic, dorsal, ventral, oblique or longitudinal.

The medicolegal contribution may be of great aid to the courts, whether it is a question of a simple fatal accident or of a crushing of the victim complicated by the misdemeanor of flight. In case of simple fatal accidents, the bases of judgment supplied by the medicolegal expert aid (1) in determining whether the victim's death is the consequence of the accident; (2) in reconstituting the circumstances and the phases of the accident, and (3) in lessening or accentuating the liability of the driver. First, as to whether death is the direct result of the traumatism. The problem is not so easy to solve, irrespective as to whether death occurred immediately or as a more remote result of the accident. The various causes of death (cerebral hemorrhages, pulmonary complications of traumatisms of the cranium, fat embolism, traumatic meningo-encephalitis, pathologic condition previous to the accident) should be studied and judiciously interpreted. Likewise, the interpretation of the lesions due to the impact, the fall, the passing of the car over the body and the dragging of the victim makes possible, in many cases, a reconstruction of the circumstances and the phases of the accident. The testimony of a medicolegal expert supplies also valuable criteria for the appreciation of the relative accountability of the victim and the driver (infirmities exposing the person to the danger of being run over; pathologic condition modifying the evolution of the wounds; preexisting mental disorder; state of drunkenness). The preventive measures should be directed to the individuals rather than to things or conditions. Simonin considers the issuance of certificates to automobile drivers on the basis of a medical examination an absolute necessity. The details of the required test need to be worked out. He describes at length his ideas as to the bases of the medical approval of applicants for an automobile driver's license, and takes up in turn the visual and auditory requirements, incapacities in the nature of locomotor infirmities, the mental and the nervous causes of inaptitude, the refusal of a license by reason of certain pathologic states, and, finally, the psychomotor qualities requisite for guiding an automobile with safety. As regards the minimal visual or auditory acuity needed for driving an automobile, Simonin puts the problem on an experimental basis and raises the question: What visual acuity or auditory acuity does a driver need in order to enable him to see an obstacle or to hear a signal sufficiently early to allow him to stop his car, if need be, and avoid an accident. The minimal distance within which a car can stop depends of course on its speed. If the speed is 80 km. (50 miles) an hour, the stopping distance is 35 meters (116 feet). That should be then the minimal distance of the vision or the audition of the driver.

As the basis of the issuance of certificates to drivers, three distinct systems are in vogue in different localities: 1. The compulsory preventive examination, which is very severe in Germany, has not proved a success. Various considerations (the need of a special medical examining body, the necessity of oft repeated examinations, the heavy expense) make the system impracticable. 2. The system of legal incapacity and of penal liability resting on an unfit driver, which consists in prohibiting by law the driving of an automobile by persons who are bearers of certain physical defects or of certain diseases denounced as dangerous for public security by reason of the accidents that they may occasion, has likewise its disadvantages, chief of which is the difficulty of proving the direct relation of cause and effect between the infirmity and the accident. 3. The third system appears to be the most acceptable: the cancellation of a driver's license on the basis of a medical examination. It is based on two principles: (1) severity of the medical selection of drivers proportional to the professional responsibility of the driver; (2) natural elimination, by such cancellation, of driving permits, based on a medical examination of drivers imposed after an accident, they having thus furnished evidence of their physical or mental inaptitude. The prospect of having a license canceled by reason of physical inaptitude or of repeated accidents or drunkenness, would exert an influence on all automobilists and would have a deterring effect on even careless and rash drivers.

Funds for American Hospital Promptly Raised

The $300,000 asked for by General Pershing, in the name of the committee of the American Hospital at Neuilly, was subscribed within a week. The hospital, which, at its foundation, had only 35 beds, was enlarged after the war and has now 120 beds. It was reopened in 1923. The hospital has free wards and rooms for paying patients, the rates for which vary, running as high as $20 a day. Forty per cent of the patients are treated gratuitously and 60 per cent pay for their accommodations and treatment. The deficit at the end of the past four years was $100,000. The subscription will wipe out the indebtedness and will supply funds needed for improvements. A training school for nurses is to be erected, which will have a capacity of sixty pupils, although there have been from 300 to 400 applications.

NETHERLANDS

(From Our Regular Correspondent)

July 10, 1931.

International Congress of Military Medicine

The sixth International Congress of Military Medicine and Military Pharmacy met in The Hague under the chairmanship of the prince of the Netherlands. More than thirty countries were represented. The official delegation from the United States comprised: R. A. Fenton, colonel, medical reserve, U. S. army; F. E. Fronczak, lieutenant colonel, medical reserve, U. S. army; E. E. Hume, colonel, medical inspector, State House, Boston; A. MacLean, colonel, auxiliary reserve, U. S. army, Detroit; J. H. MacCullough, colonel, one hundred and nineteenth medical regiment; J. C. Pryor, captain, medical corps, U. S. navy; C. R. Reynolds, colonel, medical corps, U. S. army; William Seaman Bainbridge, U. S. Naval Reserve, New York; F. H. Vinup, colonel, Maryland national guard, Baltimore; R. C. Williams, assistant surgeon general, U. S. Public Health Service, American consulate, Hamburg.

The American delegation took an important part in the discussions, especially in connection with the second topic, on which papers were presented by W. F. Lorenz, M.D., professor of neuropsychiatry, University of Wisconsin, colonel, M. C., U. S. R.; Philip B. Matz, M.D., U. S. Veterans' Bureau, Washington, D. C.; Patrick Madigan, major, M. C.; Cleve Carrington Odom, major, M. C.; William C. Porter, major, M. C.; Smith Ely Jelliffe, M.D., of New York.

Below are the conclusions adopted by the congress, which were transmitted to all the governments through the ministry of foreign affairs of the Netherlands:

RECRUITING AND TRAINING OF MILITARY PHYSICIANS AND MILITARY PHARMACISTS

The question of recruiting has only two solutions: (1) early recruiting among the students of medicine and the students of pharmacy at the beginning of their course of study, and (2) late recruiting among the graduate physicians and pharmacists. The first method is calculated to give a wider range of selection and to enroll able men before they shall have committed themselves to the acceptance of service in civil life. The performance of the army medical corps depends essentially on the quality of its officers. It is proper, therefore, to express the desire and hope that the various governments may offer such inducements as will attract the ablest men. Early recruitment

implies the application of the competitive system. It may be said that the competitive examination emphasizes unduly knowledge but recently acquired. If that is true, it is easy to overcome that objection by introducing into the examination tests bearing on general education.

The training of the military physician should combine the basic knowledge of medical science and of military instruction. In order that the medical value should be unquestioned, it should be possible to compare it. In order to be comparable, it must have the same source and the same sanctions. The training of military physicians and pharmacists should therefore be entrusted to civilian faculties. As regards the military training, it should be accomplished in the schools of the army medical corps and should be of a practical nature.

It is desirable that, in all stages of their career, the military physicians and the military pharmacists should be required to enjoy the benefits of intensive courses in the technical services and in the tactical services. On the other hand, exclusive specialization along purely technical or purely military lines is not compatible with the superior interests of the army medical corps, the best scientists of which should always be capable of serving as directors of the sanitary services.

The training of reserve officers of the army medical corps belongs to the latter, which will accomplish it best in its schools, during the required duration of their service. Their training should then be perfected by short intensive practical courses, given at regular intervals, and adapted to the duties that these officers will have to perform in time of war.

The congress expresses the desire that the various nations may favor the exchange of officers of the medical corps with a view to harmonizing the current ideas.

WAR PSYCHONEUROSIS

War, especially when of long duration, plays an unquestionable part in the genesis and in the frequency of mental disorders observed during hostilities. Psychopathic heredity, degenerative states and constitutional morbid tendencies are not the sole factors in the etiology of mental disorders. The occasional factors, in time of war, are numerous and they play a considerable part: wounds, concussions, physical fatigue, physiologic distress, infections, various intoxications, mental shock, emotions. The rôle of emotional shocks is particularly important in the genesis of psychoneuroses; hence the frequency, during the war, of postemotional syndromes.

But the war did not create psychoses of a new order, presenting a symptomatology heretofore unknown. No new morbid entity was seen to appear; only the relative frequency of certain psychoses was changed. There was a frequency of confusional states with an emotional basis called during the war shell shock or "postcommotional syndrome." These terms have sometimes been much abused. It would be better to suppress them entirely or to limit their use to cases strictly controlled. The symptomatology of every war psychosis was, on the whole, entirely comparable to that observed in the same patients during peace times, but the symptomatology was colored by the events that occurred during the war, of which it constituted a true reflection.

The antisocial reactions provoked by the psychoneuroses of war were of the same order as those of peace times; but they took on a special coloring due to the circumstances of war and had more serious consequences than in peace times, not only for the patients but also for their entourage and for the discipline of the army. The psychoneuroses that developed during the war entitled the victims to receive from the central government an invalidity pension. In case of delinquency in subjects affected with psychoneuropathic disorders, the medical expert summoned to give his advice in regard to the penal accountability of the patient should be a psychiatrist. He cannot formulate definite conclusions until he has made a careful study of each particular case.

It is important to provide, during peace time, for the organization of a field neuropsychiatric service, which should consist of: (1) a neuropsychiatric center for the army as a whole, located near the principal evacuation hospital and designed chiefly for the examination of patients affected with neurologic or psychopathic disorders; (2) special means of evacuation as regards both personnel and equipment, which could be placed, in case of need, at the disposal of regular evacuation trains, and (3) a regional neuropsychiatric center, located in each region, back of the lines, and installed in the principal hospital of the chief city; abundantly provided with specially trained personnel and charged with (*a*) a second examination of the patients, and (*b*) their division into three classes: grave cases requiring internation; patients affected with acute transitory and benign disorders, and subjects presenting curable psychoneuroses but requiring more prolonged treatment. For the last class, it is advisable to organize secondary regional centers, specially equipped for the treatment of curable psychoneuroses.

It is advisable to provide also, during peace time, for the selection of persons with mental defects by suitable examining commissions composed of competent psychiatrists and for the special training of such persons so that they may be able, in war, to render service within the range of their ability. The task will be more difficult in the countries in which obligatory military service is not introduced.

HEMOSTASIS ON THE BATTLEFIELD

Urgent hemostasis on the battlefield raises the question of the tourniquet, a means of hemostasis that is nearly always impracticable and always dangerous, especially in the hands of nonmedical personnel. However, in order that the tourniquet may not be replaced by the wounded man using a bandage that is still more harmful to the tissues, it is perhaps best not to prohibit its use entirely. The supplies to be given to the nonmedical personnel should comprise chiefly bandages of nonrubberized elastic tissue, hemostatic tampons, but also (to be held in reserve) a hemostatic bandage, to be used in case of failure of the compressive dressing.

The instructions to the stretcher carriers, the private soldier and the officers should call attention to the dangers of the tourniquet and should establish its sole indication: a spurting hemorrhage. Hemostasis at the first-aid station may be left, to a certain extent, to the initiative of the physician in charge.

It is advisable to continue the research recommended by the Italian essayists, in order to limit the dangers of ischemia resulting from the application of a tourniquet. The essential problem appears to be that of instructing properly the subordinate personnel. The congress expressed the desire that this instruction be standardized throughout the various armies of the world.

WAR TRAUMATISM OF THE TEETH AND LOWER JAW

1. The prophylaxis of sequels of wounds of the lower jaw and of the teeth depends to a great extent on the initial treatment. 2. The treatment of these wounds necessitates, from the start, the collaboration of a surgeon and a specialist in the dental art, which is accomplished in some countries by the creation of the maxillofacial crew. 3. Infection of the bone fragments is particularly serious. The infection is caused by the presence of foreign bodies or of tissue simulating that rôle: bone, sequestrum or tooth. Treatment consists in the suppression of every possible cause of infection. 4. Pseudarthroses, losses of substance that cannot be remedied by prosthesis, belong in the domain of surgery (bone grafts); metallic osteosynthesis cannot be recommended. 5. Vicious callosities are amenable to osteotomy, with or without bone graft, with the protection of an immobilization in good position. 6. Repercussions affecting the teeth: necrobiosis—through rupture of nerves or blood vessels, alveololysis, disturbance of the interdental equilibrium, loss of teeth, and the like, should be treated as soon as possible. 7. Temporomaxillary bone ankylosis should be treated by

arthrotomy and apparatus to effect mobilization. 8. Vicious cicatrices and losses of substance in the soft parts present tasks for plastic surgery. 9. Secondary neuritis is amenable to the usual treatment for that disorder. 10. In wounds of the face, one must consider not only their relation to the general health of the patient but also their effect on his mental state. 11. The experience of the last war has shown the need of training, in peace times, a sufficient number of specialists to treat maxillofacial wounds in all stages.

BERLIN

(From Our Regular Correspondent)

June 29, 1931.

Congress of the German Medical Profession

Der Deutsche Aerztetag, which represents more than 40,000 practicing physicians, was strongly influenced in the choice of topics by the stress under which the whole people was laboring. With eyes wide open we were being carried to the brink of the abyss; the courageous proposal of President Hoover had not yet been made.

The proposed reforms in health insurance, the present restricted number of panel physicians, and the reopening of the old controversy between the physicians and the sick benefit societies (*krankenkassen*) with reference to the fee schedule of panel physicians showed by the long discussions that not only the German people but also the medical profession is facing a serious economic situation. Only about 20 per cent of the premiums paid by the members of the sick benefit societies are at present utilized for the medical care of the insured and their families. A reform of social insurance is imperative.

Following these papers, characterized by a purely economic trend, the fiftieth session of the Deutscher Aerztevereinsbund was held in a simple and dignified manner befitting the period of stress. The assembly received added dignity through the presence of numerous government representatives headed by two ministers (one of Prussia and one of the *reich*), who took the opportunity to make important explanations. Of especial importance that extended far beyond the scope of the medical congress was the address of Reichsminister Wirth. He had come to the congress with a well prepared manuscript dealing with the relations between the federal government and the medical profession. He was moved, however, to lay his manuscript aside and to speak in a free manner, although often interrupted by loud applause, of the burden of distress (physical, mental and spiritual) that rests on Germany, and not only on Germany but also on Austria and the whole world. For him as minister it was discouraging to find his hands tied and to be obliged to turn deaf ears to the demands of his departments for funds in support of public welfare, public health and the association for the promotion of German science. If the present shrinking process as affecting the German people were to be allowed to continue, the whole world would suffer from it. The coming months, he said, would be the most critical that we have seen since July, 1914. Narrowing then the range of his words, Wirth stated that he attached such great importance to these sessions of the medical profession that he was planning, within a short time, to organize a meeting of the other ministries interested, for the purpose of considering what portions of the resolutions of the medical congress could be utilized by the federal government.

The severity of the distress throughout Germany is reflected in the unanimous manifesto of the German medical profession with reference to the effects of the heavy reparations on the health of the German people: "The medical profession of Germany announces, with grave concern, to the whole world that the health of the German people is becoming more and more impaired by the economic crises, the unemployment and the oppressive reparation burdens. The medical profession raises its warning voice to declare that the German people is again being exposed to hunger and its frightful effects. Mankind must join hands in raising a united front against hunger and disease. To this belief we will pin our faith in this hour of trial and will express the hope that, through a measure of relief from the reparation burdens, the German people may be encouraged to live and not be driven to despair." The political tone (which is an unusual thing at medical conventions) manifested itself also in a further resolution on the subject of passive air protection. The Aerztetag, in view of the pending disarmament conference, transmitted a demand to the federal government, through international agreements, to place a ban on the use of poisonous gases and disease-producing bacteria for the purpose of bringing destruction to a people. The closing hours of the session were taken up with professional questions. The draft of a new set of federal regulations concerning physicians, which had been worked out by the chairman, Stauder, was approved by an overwhelming majority. Among other things, a uniform settlement of questions concerning licensure, and especially the question of the possibility (or necessity) of cancellation of a license, was demanded. In view of the removal of the medical profession from the industrial classification, certain restrictions are willingly accepted (freedom of advertising withheld, prohibition of the sale of a medical practice, and the like). The medical profession will have, on the other hand, the freedom that is inspired by altruism and a readiness to aid, against which the right of members of the profession to make a living cannot be urged. The medical profession will be a public instrument of health culture of the German people, the expert adviser of the federal centers and the health centers established by the authorities of the *länder* (states) and communes. The Aerztevereinsbund and the Aerztekammer shall be merged. The supervision of the entire activities of the physician, including the field of social insurance, shall be entrusted to representatives of the medical profession that it has itself chosen.

The question of continuation courses for physicians was discussed by Prof. Friedrich von Müller, clinician, of Munich, and by Professor Adam of Berlin. Participation in continuation courses is essential. Abundant opportunities for such courses should be provided for such physicians as recognize their value and will participate.

The German medical profession can be well satisfied with the work accomplished at its jubilee session in Cologne.

Discussion of Cesarean Section

Addressing the Berliner medizinische Gesellschaft recently, Abel, gynecologist, of Berlin, discussed the research of Max Hirsch during the period 1927-1930. Hirsch recommends that all vaginal obstetric operations be replaced by cesarean section in order that an aseptic form of obstetrics may be attained. At present, 7,000 women die every year, in Germany, from puerperal fever at confinement. Against his too far-reaching demands, stoutly defended objections have been raised by many gynecologists, but, more particularly, by Winter of Königsberg, who in the statistics on cesarean section in Germany in 1928, as performed by 384 physicians and clinicians, demonstrated a mortality, as affecting the mothers, of 7.2 per cent. Abel denies the value of such statistics in view of the wide divergence of skill manifested by so many different operators, and sets up in contrast the results secured by Dörfler of Regensburg, who, since 1897, has performed 418 cesarean sections, and, through meticulous preparation of the patient and precise technic, has kept the mortality down to 0.75 per cent, while the last hundred cases and more have resulted in no deaths of either mother or child. Also many large clinics have had only 0.5 to 1 per cent mortality. Abel shows, however, that clinical obstetrics has not been napping, during the last thirty years, to the extent that Hirsch maintains. The indications for cesarean section have been extended; for example, in placenta praevia and eclampsia; the effects of hypophysis preparations have been established by Hofbauer and the preparations have been improved; new instruments have been constructed, and in the hands of skilful opera-

tors have given excellent results. Great progress has been made in the roentgenologic diagnosis of the position of the fetus and in the roentgenologic determination of the measurements of the pelvis, which play an important part in the management of obstetric cases. (A demonstration of roentgenograms followed.) Abel has been influenced by Hirsch to the extent that he has extended his indications for cesarean section, especially in the presence of a narrow pelvis, for example, but he cannot accept the complete elimination of vaginal operations, which have given him, as in gynecology, excellent results without injury for mother or child. In vaginal operations, the main thing is precise technic. Also in long-drawn-out births, which, in spite of favorable pains, show no progress, Abel resorts more commonly than formerly to cesarean section, in order to preserve the life of the child. Whether as a result of cesarean section more children are born, Abel considers doubtful; for in his cases he has observed that no woman has accepted the operation a second time. In spite of the progress of technic and of asepsis, no laparotomy can be absolutely guaranteed to be successful. Although Abel does not recognize in all respects the indications of Hirsch, he appreciates the value of his demands, especially since through cesarean section the way is prepared for an aseptic birth and thus a strict separation of clinical and domiciliary obstetrics must be recognized. Abel accepts the demands that Hirsch has set up in this direction. All doubtful cases should be promptly sent to the clinic without previous contamination through internal examination. No vaginal examinations should be made during childbirth. Abel suggests that the instruction of students and midwives be modified in keeping with this demand.

AUSTRALIA

(From Our Regular Correspondent)

July 3, 1931.

Second Australian Cancer Conference

During the past two and one-half years, 4,603 patients have received treatment with radium for various malignant and other conditions at the several organized treatment centers in Australia. Of 1,669 patients treated for carcinoma (excluding rodent ulcer) in the two years ended June 30, 1930, 682, or 41 per cent, have not suffered a recurrence of symptoms, and, as far as can be stated, bearing in mind the limited period since treatment was completed, are apparently cured. The results obtained with rodent ulcer and diseases of doubtful malignancy are a great deal better.

Such is the summary of the results of radium treatment in Australia, presented to the second Australian Cancer Conference held at Canberra, March 26 and 27. It is now possible to state that there have been brought within the reach of all in Australia who suffer from cancer the most modern and successful methods of treatment. The conference recommended, in regard to the work in the treatment centers, that increased attention should be paid to the fostering of the consultative clinic system, and in those hospitals where such clinics do not yet exist it is urged that early steps be taken to form them. Standardized case records and a reliable system of follow-up after-treatment were investigated by the conference, and more adequate precautions, it was considered, should be taken to insure protection of patients and staff.

The conference was informed of the commencement made in respect to participation in an international inquiry into cancer of the cervix uteri. An extension of this inquiry in Australia by cooperation of additional gynecologists will be effected.

During the past year 11,919 millcuries of radon was issued in 4,386 containers from the Commonwealth Radium Laboratory at Melbourne. The average weekly quantity issued was 245 millcuries. The emanation is now practically always issued either in gold tubing or in Muir type needles, since these have been found by the treatment centers to be the most suitable.

RESEARCH

In New South Wales during the past twelve months, nine research workers have been continuously engaged in the study of cancer problems with the aid of the cancer fund of the University of Sydney. Progress has been made steadily in the investigation on the activities of radiations of different wavelengths. Research is still being continued on the chemical structures of tissues. The fate of lead introduced into the human body as intravenous injections of various colloidal preparations containing lead has been studied. Serologic research has been carried out in reference to Hodgkin's disease.

At the Melbourne University, under the University Research Committee, Dr. Thomas Cherry has continued his experimental work on the relationship between tumor growth and tuberculosis infection in mice. Dr. King has extended his morphologic studies on ovarian tumors. At the Commonwealth Serum Laboratories, the study has been continued of certain functions in the metabolism in vitro of transplantable tumors. Measurements have been made of the respiration, aerobic glycolysis and anaerobic glycolysis of neoplastic and other tissues. The materials studied have included Twort's alveolar carcinoma of mice, certain spontaneously occurring tumors of mice, and normal tissues. Some time has been devoted to the development and testing of a chemical method for the extraction and estimation of lactic acid produced by the Twort adenocarcinoma. The methods employed are being applied to the classification of tumors according to their metabolic functions.

INTERNATIONAL COOPERATION

The radiologic subcommission of the cancer commission of the health organization, League of Nations, is endeavoring to ascertain what methods of radiologic treatment give the best results in cancer of the uterus, and to do so by a cooperative system of research. The help of gynecologists in various countries has been solicited. A beginning has been made in Australia in the matter of cooperation in this international inquiry. Arrangements have been made for Dr. Robert Fowler of Melbourne to carry out an investigation of the methods and results of treatment of every patient suffering from cancer of the uterus who, whether as an outpatient or an inpatient, refers to him for treatment. This investigation will be carried out according to the rules laid down by the radiologic subcommission and full particulars will be recorded on the international form adopted for the purpose. The patient will be followed up for a period of years, and the history subsequent to treatment will be fully recorded. An interval of at least three years will be allowed after treatment before results are assessed by the radiologic subcommission, but an arrangement has been made with the subcommission for an interim report to be furnished annually, including a return of the patients recorded on the international form.

Australia is also cooperating in the international investigation of cancer by providing for the collection of statistical material on uniform lines covering the results of the various methods of treatment of cancer and by the compilation of statistical material regarding regional cancer mortality.

PRECAUTIONS FOR THE PROTECTION OF WORKERS AND PATIENTS

The committee on protection advised that the international recommendations of 1928 be instituted pending tests being made by the ionization and photographic methods of the radiation to which roentgen and radium workers are exposed in the various hospitals. It was recommended also that examination of the blood of radium and roentgen workers should be made and that there should be a test of basal metabolism at intervals of one month and three months, respectively. A definition of a radium worker was laid down as one who is regularly handling radium, or one who is regularly exposed to radium for a total period of more than three months in a period of six consecutive months. A corresponding definition was given for a roentgen worker. The value 10^{-2} roentgen unit per second is adopted provisionally

as being the maximum intensity of radiation to which any one can be regularly exposed safely during working hours.

An inspection service of roentgen diagnosis and therapy equipment is proposed to be instituted by the commonwealth department of health on the lines of the services now available by the National Physical Laboratory in Great Britain.

EDUCATIONAL ASPECTS

Educational work in respect to the medical profession has been continued by the quarterly publication of a journal by the cancer research committee of the University of Sydney, which has been distributed to every medical practitioner in the commonwealth. Numerous copies of this publication have been sent abroad and have attracted attention. As a result, information is coming to hand from cancer research institutions from other parts of the world.

The University of Sydney has at present under consideration the establishment of a diploma of radiology, and arrangements have been made for the training of personnel in high voltage therapy.

STATISTICS

Considerable interest was shown in a paper entitled "Some Principles of Cancer Statistics Research," contributed by Frederick L. Hoffman, consulting statistician, Prudential Insurance Company of America. The possibility of a general practitioner educational campaign throughout the commonwealth was covered by a resolution passed at the conference.

A draft model case records form, recommended by the committee, will be circulated to all members, and replies will be awaited before a decision is made on the adoption of the form for use at all treatment centers.

The death rate from cancer in Australia has increased from 84 per hundred thousand of mean population in 1920 to 98 in 1929, the highest yet recorded. The increase is evenly distributed between males and females. The proportion of deaths to total deaths from all causes in Australia shows that the proportion due to cancer still continues to rise both among males and females.

Australian experience has shown that operable sarcoma, carcinoma and malignant disease (various) treated with radium, and radium combined with other methods, have a high rate of apparent cure and a low rate of mortality, 6 out of 300 for operable carcinoma, none out of 9 for operable sarcoma, 2 out of 597 for operable malignant disease (various).

Analysis of cancer deaths shows that the proportion due to cancer of the buccal cavity is diminishing. The figures for this region accounted for 12.8 per cent of total deaths in males in the period 1908-1923; but in the period 1924-1929 the ratio dropped to 10.5 per cent of total cancer deaths in males. The mortality rate from cancer of the tongue is diminishing in males. Cancer of the skin shows a slight fall, from 3.5 per cent to 3.4 per cent of total cancer deaths.

The curve of the mortality rate from cancer of the skin, which up till 1918 in Australia was steadily rising, now appears to have taken a definite turn. Modern treatment methods may reasonably be considered to have influenced the curve.

Cancer of the liver and stomach accounts for a smaller proportion of total cancer deaths than formerly. The ratio of deaths from cancer of the intestine and rectum to total cancer deaths has considerably increased. The ratio of deaths from cancer of the female genital organs to total cancer deaths in the female has risen from 20.4 to 20.7 per cent and of the breast from 15.1 per cent to 17.2 per cent.

The conference refrained from expressing an opinion as to whether the time has arrived for cancer to be made a notifiable disease, but it was recommended that steps should be taken to ascertain the outlook of the members of the profession in Australia. It also recommended the desirability of a study of the effects of contraceptive agents in relation to the causation of uterine cancer.

Marriages

FAUS PETER SILVERNALE, Great Falls, Mont., to Miss Mathilda Barthwold of Havre, recently.

WILLIAM H. MAYER, Pittsburgh, to Miss Emma Jane Glass of London, Ont., Canada, in June.

OLIVER CLARKE NICKUM to Miss Karen Hansen, both of Mount McGregor, N. Y., July 25.

ROBERT N. LITTLE, Summerville, Ga., to Miss Katheryn Wheeler of Lyerly, July 23.

SIDNEY L. FORD, Hensonville, N. Y., to Miss Mary Lewin of New York, June 24.

NEDJIB MOUSTAFA BEKIR to Miss Arsenia G'frer, both of Philadelphia, June 27.

LEO GAMBURG, East Moline, Ill., to Miss Hinda Notarius of Chicago, August 2.

WALTER W. BAKER, Enid, Okla., to Miss Evangeline Jones of Baltimore, June 4.

MAX J. WEINSTEIN, Washington, D. C., to Miss Esther Messing, August 7.

FRED E. GIFFORD, Indianapolis, to Miss Frances McMath, July 11.

Deaths

David Ross ✠ Indianapolis; Medical College of Indiana, Indianapolis, 1895; member of the House of Delegates of the American Medical Association, 1926-1930; past president of the Indiana State Medical Association; member of the American College of Surgeons; associate professor of surgery, Indiana University School of Medicine; aged 65; consulting surgeon to the Indianapolis City Hospital, the Methodist Episcopal Hospital and St. Vincent's Hospital, where he died, August 3, of toxic encephalitis, influenza and pneumonia.

Ruth Peabody Hume, Ahmadnagar, Bombay Presidency, India; Woman's Medical College of Pennsylvania, Philadelphia, 1902; associate Fellow of the American Medical Association; for twenty-six years a medical missionary in India; director of the American Hospital for Women and Children in Ahmadnagar for many years under the American Board of Foreign Missions; aged 56; died, June 3, in the New Haven Hospital, New Haven, Conn., of lobar pneumonia, following carcinoma of the right breast.

Elisha Henry Cohoon, Medfield, Mass.; College of Physicians and Surgeons, Baltimore, 1903; member of the Massachusetts Medical Society, the American Psychiatric Association and the New England Society of Psychiatry; president of the Massachusetts Society of Psychiatry; superintendent of the Medfield State Hospital; aged 56; died, July 21, in the Deaconess Hospital, Boston, of carcinoma of the rectum.

Horace Howard Jenks ✠ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1904; assistant professor of pediatrics, University of Pennsylvania Graduate School of Medicine; member of the American Pediatric Society and the American College of Physicians; visiting physician to the Rush Hospital; aged 53; died, July 5, in the Pennsylvania Hospital, of bronchopneumonia.

John Robinson Irwin ✠ Charlotte, N. C.; University of Maryland School of Medicine, Baltimore, 1877; past president of the Medical Society of the State of North Carolina; formerly professor of gynecology and abdominal surgery, North Carolina Medical College; on the staff of the Presbyterian Hospital; aged 77; died, June 28, of heart disease.

Frederick Terwilliger, Spencer, N. Y.; Eclectic Medical College of the City of New York, 1899; member of the Medical Society of the State of New York; secretary and past president of the Tioga County Medical Society; aged 62; on the staff of the Tioga County General Hospital, Waverly, where he died, in July, of coronary occlusion.

Carloss James Chamberlin ✠ New York; Vanderbilt University School of Medicine, Nashville, Tenn., 1922; member of the American College of Surgeons; assistant attending surgeon to the Metropolitan and New York Skin and Cancer hospitals; aged 34; was killed, July 16, in an airplane collision in midair at Brooks Field, Texas.

William Edgar Deeks ✠ New York; McGill University Faculty of Medicine, Montreal, Que., Canada, 1893; member of the American College of Surgeons and the Medical Asso-

ciation of Isthmian Canal Zone; general manager of the medical department, United Fruit Company; aged 65; died, July 24, of myocardial degeneration.

M. Josephine Beede, Pasadena, Calif.; Woman's Medical College of the New York Infirmary for Women and Children, 1898; member of the Massachusetts Medical Society; formerly on the staff of the New England Hospital for Women and Children, Boston, Mass.; aged 65; died, June 16, following an operation for appendicitis.

William Louis Johnson, Uxbridge, Mass.; Harvard University Medical School, Boston, 1878; member of the Massachusetts Medical Society; formerly member of the state legislature, school committee and town board of health; aged 74; died, July 3, in St. Vincent Hospital, Worcester, of prostatic obstruction.

John Sturgis, Auburn, Maine; Bellevue Hospital Medical College, New York, 1896; member of the American College of Surgeons; member and president elect of the Maine Medical Association; president of the Central Maine General Hospital staff; aged 60; died, May 9, of arteriosclerosis.

William Eyre Sisson, San Diego, Calif.; Johns Hopkins University School of Medicine, Baltimore, 1922; member of the California Medical Association; aged 33; was drowned, July 10, in Lake Cuyamaca when attempting to rescue his small son who had fallen out of a rowboat.

Charles Willson Davis, Oteen, N. C.; University of Maryland School of Medicine, Baltimore, 1919; formerly on the staff of the U. S. Veterans' Hospital, No. 60; aged 38; died, July 2, in the Mount Wilson Branch of the Maryland Tuberculosis Sanatorium, Baltimore, of tuberculosis.

Vite Edgar Van Kirk, Pittsburgh; University of Pittsburgh School of Medicine, 1912; member of the Medical Society of the State of Pennsylvania and the American Academy of Ophthalmology and Oto-Laryngology; served during the World War; aged 44; died, June 5.

Charles E. Amerman, Linton, Ind.; College of Physicians and Surgeons, Keokuk, Iowa, 1887; for many years member of the board of health of Linton; aged 68; died, June 28, in the Mary Sherman Hospital, Sullivan, of chronic myocarditis and arteriosclerosis.

Frank E. Crosier, Lebanon, Ohio; Columbia University College of Physicians and Surgeons, New York, 1894; member of the Ohio State Medical Association; connected with the U. S. Veterans' Bureau; aged 65; died, June 27, of dilatation of the heart.

James Edward Cramond ✱ Major, M. C., U. S. Army, New York; Medical Department of Hamline University, Minneapolis, 1903; served during the World War; entered the regular army as a captain in 1920; aged 53; died, July 14.

Cecil C. Ross, Hyde Park Corner, Ont., Canada; Western University, Faculty of Medicine, London, 1901; served during the World War; for twelve years medical officer of health for London township; aged 53; died, May 2.

Emil Windmueller, Sacramento, Calif.; Rush Medical College, Chicago, 1894; member of the California Medical Association, and the American College of Surgeons; aged 60; died, June 29, of carbon monoxide poisoning.

William McKendrie Earnest, Washington, Kan.; American Medical College, St. Louis, 1891; member of the Kansas Medical Society; aged 63; died, April 7, in Altadena, Calif., of bronchial asthma and heart disease.

Michael Thomas Sweeney, Quincy, Mass.; Georgetown University School of Medicine, Washington, D. C., 1906; member of the Massachusetts Medical Society; aged 50; died suddenly, July 5, of heart disease.

Olney Walker Clayton, Fort Payne, Ala.; Medical Department of Grant University, Chattanooga, Tenn., 1907; member of the Medical Association of the State of Alabama; aged 56; died, April 20, of pneumonia.

Lyle William Doran, Sioux City, Iowa; Creighton University School of Medicine, Omaha, 1923; member of the Iowa State Medical Society; aged 33; died suddenly, May 4, in a local hospital, of embolism.

Reid A. Rosser, Lynchburg, Va.; University College of Medicine, Richmond, 1896; member of the Medical Society of Virginia; aged 60; died, July 3, of an injury received in a fall from a hospital window.

James D. Blair, Springfield, Ohio; Jefferson Medical College of Philadelphia, 1904; aged 52; on the staff of the Clark County Tuberculosis Sanitarium, where he died, June 2, of pulmonary hemorrhage.

Melvin J. Stearns, Massena, N. Y.; Hahnemann Medical College and Hospital, Chicago, 1880; Civil War veteran; formerly postmaster, and member of the school board; aged 87; died, May 22.

Marjorie Bonthrone Burnham, Los Angeles; University of Michigan Medical School, Ann Arbor, 1903; member of the California Medical Association; aged 53; died, June 26, of coronary sclerosis.

William Horatio Bates, New York; Medical Department of Columbia College, New York, 1885; aged 70; died, July 10, of brain abscess, following an operation for acute suppurative ethmoiditis.

Julian D. Butler, Houston, Texas; Bellevue Hospital Medical College, New York, 1894; aged 59; died, July 8, of an accidental bullet wound in the heart, received while cleaning his pistol.

John Joseph Carey, Brooklyn; Long Island College Hospital, Brooklyn, 1892; member of the Medical Society of the State of New York; aged 65; died, July 21, of heart disease.

Walter Eugene Foster ✱ Richmond, Ill.; University of Michigan Medical School, Ann Arbor, 1900; served during the World War; aged 54; died, June 1, of vegetative endocarditis.

Marion La Fayette Robey, Edgar, Wis.; Rush Medical College, Chicago, 1886; aged 76; died, July 11, in the Wausau (Wis.) Memorial Hospital, of a self-inflicted bullet wound.

John Lewis Copeland, Ehrhardt, S. C.; Atlanta Medical College, 1893; member of the South Carolina Medical Association; aged 60; died, June 12, of cerebral hemorrhage.

Eveline Dickinson, New York; Woman's Medical College of Pennsylvania, Philadelphia, 1907; aged 68; died, June 5, in the White Plains (N. Y.) Hospital, of heart disease.

William Kirke Otis, Rochester, N. Y.; University of Michigan Homeopathic Medical School, Ann Arbor, 1912; aged 43; was found dead, July 16, of heart disease.

Thomas J. Denson, Cameron, Texas; Memphis (Tenn.) Hospital Medical College, 1900; member of the State Medical Association of Texas; aged 56; died, May 13.

Pierre Everette Witherspoon, Grand Rapids, Mich.; University of Michigan Medical School, Ann Arbor, 1880; aged 74; died, June 30, of cerebral hemorrhage.

Arthur Smith Bird, Pleasantville, N. Y.; Medical Department of Columbia College, New York, 1876; aged 81; died, May 27, of carcinoma of the hard palate.

Henry M. Bascom ✱ Peoria, Ill.; Hahnemann Medical College and Hospital, Chicago, 1873; aged 78; died, July 4, in the St. Francis Hospital, of myocarditis.

Mercer B. Croll, Washington, D. C.; University of Pennsylvania School of Medicine, Philadelphia, 1878; aged 76; died, June 25, of paralysis agitans.

Harvey Sylvester Braucht ✱ Spring Mills, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1895; aged 64; died in May.

William Allen DeLong, Belleview, Ill.; Medical Department of Washington University, St. Louis, 1907; aged 51; died, July 14, of carcinoma.

John William Stewart, Windsor, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1912; aged 46; died, April 25.

George G. Gandy ✱ Humboldt, Neb.; Ensworth Medical College, St. Joseph, Mo., 1902; aged 51; died, June 11, of cerebral hemorrhage.

Arista F. Tarvin Hayman, St. Louis; Barnes Medical College, St. Louis, 1903; aged 57; died suddenly, July 8, of chronic myocarditis.

Horace Seaver Huckins, Pasadena, Calif.; Keokuk Medical College, College of Physicians and Surgeons, 1903; aged 67; died, June 15.

John Phillip Stein, St. Louis; St. Louis College of Physicians and Surgeons, 1908; aged 49; died, July 9, of mitral insufficiency.

Francis Stanley Browne, La Fontaine, Ind.; Medical College of Indiana, Indianapolis, 1903; aged 59; died, July 6, of myocarditis.

Frederick R. Kleene ✱ Chicago; Rush Medical College, Chicago, 1887; aged 68; died suddenly, July 25, of cardiac thrombosis.

William F. King, Jefferson City, Tenn.; Medical Department, University of Tennessee, Nashville, 1890; died, May 28.

Louis Griffin Knox, Danbury, Conn.; Medical Department of Columbia College, New York, 1872; aged 79; died, June 14.

Oskar Brun, Chicago; University of Basel Medical Faculty, Basel, Switzerland, 1879; aged 80; died, June 11, of myocarditis.

Bureau of Investigation

THE KAADT DIABETES TREATMENT

An Indiana Physician Makes Dieting and Insulin Unnecessary

A physician in Michigan writes:

"Can you furnish me with information on the diabetic treatment being sent out by the Diabetic Laboratories of Fort Wayne, Ind.? The material, as sent to the patients by this concern, is signed by C. F. Kaadt, said to be a physician at 339 West Brackenridge, Fort Wayne. This man advises his patients to follow his treatment, disregarding urine test, because of the interference of his treatment with the sugar test, but in case of coma, to give insulin."

From Minnesota another physician wrote:

"Would you kindly give me some information in regard to Dr. C. F. Kaadt of 339 West Brackenridge Street, Fort Wayne, Ind., who says he is surgeon for the Wabash Railroad? My brother has diabetes. He wrote to me telling me that Dr. Kaadt, who has specialized in diabetes for nine years, sold him a quart bottle of medicine for five dollars. He [Kaadt] told him he would not have to diet and that he would be cured in six months."

From Indiana comes another letter, also from a physician:

"I am writing you in regard to Dr. C. F. Kaadt, who has a cure for diabetes. A patient came to my office today and brought a sample of the medicine that he dispenses at $5.00 a quart. How long he has been doing this, I do not know. He is a member of his local and state society and is attending physician for the Wabash Railroad."

According to the records of the American Medical Association, Charles Frederick Kaadt was born in 1872 and holds a diploma from the Keokuk Medical College, College of Physicians and Surgeons, for 1902. He is licensed in Iowa and Indiana. Dr. Kaadt is a member of his local society and, through that, has qualified as a Fellow of the American Medical Association. The physician who wrote the second letter quoted above followed up his correspondence with another letter, in which he stated that his brother, while he was on Dr. Kaadt's treatment for diabetes, had a large increase in the blood and urine sugar. Learning this from local physicians, the brother wrote to Dr. Kaadt, who is said to have replied that the local physicians would not understand his treatment and the blood and urine findings "would be misleading to them." In the same letter Dr. Kaadt is said to have written further in this connection:

"Doctors do not understand the difference between Diabetic Sugar and the normal Blood Sugar. If you will cut down on your diet to a slight extent, of course that would decrease the amount of sugar in your blood and urine also. It would be better for you, so long as you are feeling good not to have any tests made as it only puts you on the wrong track and will interfere with you getting well."

The patient, however, went back to his regular physician and on his diet, with the result that the blood sugar greatly decreased and the sugar in the urine disappeared.

A man who wrote to Dr. Kaadt regarding his treatment for diabetes received a letter part of which is quoted, *verbatim et literatim:*

"I beg to state that this medicine is not for sale in drug stores. I manufacture it my self and send it out. It is not necessary to use insulin.

"The length of treatment is from three to seven months depending on the severity of the case. It is not necessary to diet. I have devoted many years to the study of this desease and have found that Diabetis is a desease of the small intestines. It is a destruction of the converting glands, which change the starches into normal blood sugar. The sugar in diabetic cases not being properly converted does not combine with other food elements to keep the body balanced in nutrition. To remove starches and sugar from the diet, only starves the body.

"My treatment acts on the intestines in such a manner that it restores the action of these glands. The length of treatment varies from three to seven months depending on the severity of the case. I have patients who took the treatment several years ago and as yet show no return of the disease.

"I am dispensing this medicine in qt. bottles at five dollars ($5.00) per bottle. It should last twenty two days."

As this letter from Dr. Kaadt did not bring an order for the medicine, a month later another letter came from Dr. Kaadt, in which he listed what he described as a few of his severe cases. These were given as follows:

"William M. Hintsman, Albion, Indiana; age 54; has taken treatment about three months; showed no evidence of disease.

"John Peters, 1006 Lake Ave., Fort Wayne, Indiana, took treatment for four months; treatment has stopped for six months and no return of disease.

"Mrs. Mary Van Buskirk, 1407 Columbia Ave., Fort Wayne, Indiana; gangrene of toes and heel; after 44 days treatment, all symptoms have disappeared and wounds healed.

"Mr. Lueders, Concordia College, St. Louis, Mo., all symptoms disappeared after 24 days treatment.

"Mr. J. Heath, Parnell Road, Fort Wayne, Indiana; age 78; had disease for twelve years; after four months' treatment has made complete recovery."

Dr. Kaadt also added that Mr. Henry Miller, "president of the Anti-Borax Compound of Fort Wayne," thoroughly investigated his (Dr. Kaadt's) claims before giving the medicine to his (Mr. Miller's) sister.

In a letter written recently, Dr. Kaadt states that he has used the treatment for nine years and that the treatment is a "ferment" and "gets to the cause of the disease."

As long ago as October, 1930, the Bureau of Investigation wrote to Dr. Kaadt, stating that it was understood that he had a remedy for the treatment of diabetes which when used made it unnecessary for the patient to diet; that inquiries had come in to the Bureau, asking what the remedy is, but that a search of medical literature failed to throw any light on the subject. Dr. Kaadt was asked if he cared to give any information. No reply was received to this inquiry. On July 24, 1931, Dr. Kaadt was again written to by the Bureau of Investigation and the letter of October, 1930, was quoted. He was told that neither answer nor acknowledgment of the previous letter had been received and that as the Bureau continued to receive inquiries relative to his treatment and as, further, Dr. Kaadt was a member of the American Medical Association, it was assumed that he would have no hesitancy in giving the profession the facts regarding his treatment. This letter was sent by registered mail. In a day or two's time, a reply came from Dr. Kaadt, in which he stated that he had never received the October, 1930, letter or he would certainly have answered it. Dr. Kaadt then continued:

"I have been treating diabetis [*sic*] for some time with very gratifying results. I have quite a number of arrested cases. These cases received treatment over a varying period of time, from three to eleven months, some few cases longer. After the first few weeks I do not keep patients on a diet, but give them a balanced meal.

"My treatment is not a specific, as each group of cases vary as to treatment. Complications must be recognized and properly treated.

"After I have complete records of several hundred cases also of cases of five years or over, I will furnish you with a paper and submit my findings to you. My experience with this disease, it's cause and treatment is so widely different from the general opinion of the profession, that I prefer to wait until I have sufficient data to prove my claims."

It appears from this that while Dr. Kaadt is willing to let laymen infer that he has a cure for diabetes and sells this remedy on the mail-order plan, telling diabetics that when using it, it is unnecessary for them to use insulin or diet, he is, as yet, unwilling to give the medical profession any information on the subject. This, in spite of the fact that he admits that he has used his remedy for nine years and that he has never failed to produce a cure.

Most preparations of secret composition sold on the mail-order plan for the treatment or alleged cure of diabetes, have, as their essential ingredient, some diuretic. The object, apparently, is to mislead the patient into the belief that the nostrum is causing a reduction in the amount of sugar excreted in the urine. The average diabetic has some comparatively simple method of testing his urine. When the urine is decidedly increased in quantity, it is obvious that *any given specimen* will show a reduction in the amount of sugar, although the total amount of sugar excreted in twenty-four hours may be even larger than that found before taking the preparation.

Whether the essential ingredient of Dr. Kaadt's diabetic remedy is a diuretic, we cannot state. Some tests made of a specimen recently sent in and alleged to be that sold by Dr. Kaadt indicated the presence of potassium nitrate in fairly large amounts, dissolved in a brown, murky liquid having the odor of vinegar.

Correspondence

TUBERCULIN DILUTIONS

To the Editor:—In THE JOURNAL, May 30, Dr. J. D. Pilcher reported his experience with the keeping quality of tuberculin dilutions. So much has been written since the introduction of tuberculin about its potency that one is at a loss to know when tuberculin dilutions can be used satisfactorily and with dependability. I have used tuberculin for more than twenty years, both for therapy and for diagnostic purposes. Dr. Pilcher is correct when he states that tuberculin is still of good potency after dilution for months or even years.

With the dilution 1:100 I find that the last drop, even after months and years, is always of full potency. Using only Koch's original old tuberculin, prepared in Germany, I made a late dilution from a package said to have been prepared May 10, 1929, the expiration date of which is given as July 4, 1934. The enclosed circular states that the keeping quality of tuberculin is indefinite, the dilution 1:10 is stable for a comparatively long time, and that in the dilutions of greater degree the activity may rapidly diminish. From this package, Oct. 25, 1930, I prepared a 10 per cent solution, or 10 cc. of a solution 1:10, and immediately prepared from this dilution 10 cc. a dilution 1:100 equal to 1 mg., or 1:1,000. This dilution for convenience should be designated A. This solution was used until Dec. 15, 1930, when all of dilution A was used up. I now prepared another dilution 1:100 from the original 1:10 solution, designated as B. This was all exhausted by Jan. 20, 1931. I now prepared a third quantity from the 1:10, called C. This was all used by March 16, when I prepared the contents of bottle D. From this fourth dilution of 1:100 I injected a milligram, now 5 months old, into the upper part of the arm, intradermally, in an individual suspected of mediastinal gland tuberculosis with negative physical examination of the lungs. This was followed in forty-eight hours by an enormous reaction.

A man, aged 31, said that his mother had for many years bronchitis and catarrah. He himself had typhoid (?) at 15 and an operation for rectal fistula in 1930. His pulse was 100; temperature, 99 F. A Mantoux test after forty-eight hours resulted in an indurated area 3.5 by 4 cm. and an outer hyperemic zone 9 by 12 cm., with two irregular, wavy, hyperemic bands extending well into the axilla with all the systemic disturbances, so often observed. The pulse was 120; temperature, 100. If this reaction of 9 by 12 cm. followed a tuberculin dilution with perhaps a loss in potency after five months' dilution, what would have been the result if a recent dilution had been applied? Perhaps the reaction would have extended over the entire upper part of the arm or perhaps over the body itself. May 12, I prepared dilution, E, 1:100, from the same 1:10 tuberculin and gave two Mantoux tests, the solution now 7 months old, both of which were positive, the outer zone in both being about 7 by 9 cm. Roentgen examination showed some small calcified glands in each hilus and a few near the right in the region adjacent to the hilus; otherwise the chest had a normal appearance.

Any dilution of tuberculin, if kept in a cool place, perferably in an icebox, with the quantity to be used when withdrawn from the container under strict aseptic and sterile conditions, will keep indefinitely for months and years and will be of good potency and dependability until the last drop is used.

Dr. Pilcher should also be highly commended for describing the size of the reactions in the more scientific way in centimeters instead of in +, ++, +++ or ++++, which, after all, does not give the accurate diameter of the reaction, as when both the indurated area and the hyperemic zone are stated in centimeters.

JOHN RITTER, M.D., Miami, Fla.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DIAPEDESIS OF WHITE CELLS

To the Editor:—To settle a discussion, will you please answer the following questions: 1. Explain in detail how white cells escape from capillaries. 2. Why do these cells not escape through normal glomerulus in kidney? Are any normal capillary walls thinner than those in the glomerulus. 3. Do lymphocytes, myelocytes and embryonic white cells pass by diapedesis? 4. How thin must the capillary wall be before diapedesis of cells can take place?

B. L. KNIGHT, M.D., Cedar Rapids, Iowa.

ANSWER.—1. It is difficult to state with certainty the exact mechanism of emigration of white cells from the blood current through the capillary wall. There have been many attempts to explain the diapedesis of white corpuscles as the result of simple physical or physicochemical causes, such as surface tension of leukocytes, plasma viscosity, specific gravity, changes in blood pressure and chemotactic influences. Tannenberg has written a great deal on this phenomenon:

Experimentelle Untersuchungen über lokale Kreislaufstorungen: III. Die stase, zugleich Untersuchungen über die Entstehungsbedingungen eines Kollateralkreislaufes, *Frankfurt. Ztschr. f. Path.* **31**: 285, 1925.

Experimentelle Untersuchungen über lokale Kreislaufstorungen, IV. Die Leukozytenauswanderung und die Diapedese der roten Blutkorperchen, *Frankfurt. Ztschr. f. Path.* **31**: 351, 1925.

Ueber die Kapillartätigkeit, *Ztschr. f. allg. Path. u. path. Anat.* **36**: 374, 1925.

Bau und Funktion der Blutkapillaren, *Deutsche med. Wchnschr.*, 1926, number 10.

The recent studies on diapedesis have been made on the capillaries or small veins where there is a definite axial flow and a not too rapid current. Under these circumstances the leukocytes are found chiefly in the marginal layer of the plasma, rolling along the wall without entering the axial stream. The process of emigration of leukocytes is best observed when the surrounding tissue is in the state of inflammation. The leukocytes become definitely adhesive to the vessel walls and change from the normal spherical shape to a wedge shape with the pointed area against the vessel wall. The tip of the leukocyte bends and penetrates the wall. The entire cell can then be observed to move slowly through the endothelium. This active penetration of the white cell leaves the endothelium substantially intact as the opening closes immediately after penetration.

2. Ordinary capillaries cannot be compared to those in the glomeruli, as the vessels in the glomeruli have not only a capillary wall but another enveloping layer of epithelium from Bowman's capsule. This may partly explain the differences in the permeability of the capillaries in the glomeruli and those elsewhere. Other factors, such as velocity of flow and differences in blood pressure, may also play a part.

3. Yes.

4. Diapedesis is dependent on many other factors besides thinness of the capillary wall. We do not know how the thickness of capillary walls could be accurately measured.

ARSPHENAMINE AND NEOARSPHENAMINE

To the Editor:—What is the comparative therapeutic value of arsphenamine and neoarsphenamine? SIMON B. SPILBERG, M.D., Milwaukee.

ANSWER.—Comparisons of the therapeutic value of arsphenamine and neoarsphenamine must take into account the difference of arsenical content, which is one-third higher in the case of arsphenamine than in the case of neoarsphenamine. Even allowing for this difference, it is quite generally conceded that arsphenamine as such is therapeutically the more effective drug of the two. It must be noted, however, that clinical evidence, particularly as to the efficiency of neoarsphenamine, is conspicuously small. The most carefully investigated and reported clinical material has been treated with arsphenamine rather than with neoarsphenamine.

In comparing the two drugs therapeutically, inferences cannot be drawn too directly from the official trypanicidal tests. Kolmer (Chemotherapy, with Special Reference to the Treatment of Syphilis, Philadelphia, W. B. Saunders Company, 1926, p. 541) found arsphenamine curative in doses of 4 mg. per kilogram intravenously, and the same dose intramuscularly. Neoarsphenamine, on the other hand, required 8 mg. per kilogram for the same effect intravenously and 10 mg. intra-

muscularly. Burke (The Adequate Treatment of Syphilis and a New Method for Evaluating Therapy, *Am. J. Syph.* **15**:155 [April] 1931) gives the chemotherapeutic index of arsphenamine as 18; that of neoarsphenamine as 16; the efficiency ratio of arsphenamine as 100 and that of neoarsphenamine as 88; and the so-called therapeutic unit value, an expression of relative curative power, as 1.00 and 0.88 for neoarsphenamine. Akatsu (*J. Exper. Med.* **25**:363 [March] 1917) found that spirochete cultures were killed by the following concentration: arsphenamine, 1:7,500; neoarsphenamine, 1:2,500.

One of the characteristics of neoarsphenamine, which will unquestionably affect any attempt to estimate its gross clinical value, is the marked variability between different lots of the preparation even from the same manufacturer. Attention was called to this by the work of Dale and White during the war, and the studies of Voegtlin and his co-workers. As compared with neoarsphenamine, arsphenamine is much the more stable and uniform and, consequently, therapeutically the better preparation. Hazen called attention to the low therapeutic index of neoarsphenamine, in THE JOURNAL, March 2, 1929. The principal difficulty in the full clinical utilization of the superior work of arsphenamine lies in the difficulty of preparation and administration of the older drug and its greater tendency to produce the milder, but none the less inconvenient, types of reaction in the patient.

Additional references that may be consulted include Jeanselme and Sezary (Therapeutic Activity of Usual Antisyphilitic Remedies, *Bull. Acad. de méd.* **97**:698 [May 24] 1927); Findlay, G. M. (Recent Advances in Chemotherapy, Philadelphia, P. Blakiston's Son & Co., 1930, p. 358); Dale and White (Comparison of the Therapeutic Properties of Different Preparations of 914 (Neosalvarsan) *Lancet* **1**:779 [April 22] 1922); Voegtlin and Miller (The Relative Parasiticidal Value of Arsphenamine and Neoarsphenamine, with a Description of the Trypanocidal Tests, *Pub. Health Rep.* **37**:1627 [July] 1922).

ENURESIS AND HEAD BANGING

To the Editor:—I am writing in regard to my son, who is 9 years old. Delivery was normal and spontaneous. When younger, he had eczema. He was brought up on artificial feeding, chiefly Nestlés Food, with no whole milk until he was about 2 years old. He seemed to thrive well on this formula, after various pediatricians had failed with other formulas containing whole milk. The eczema disappeared. The only children's diseases that he has had are measles and bronchial pneumonia, middle ear abscesses and chronic nasal discharge, evidently sinusitis. His tonsils were removed when he was about 5 years old. He is slightly underweight and undersized. His heart and lungs are normal, as is also his blood pressure. The urine at times shows faint traces of albumin and a few pus cells. His mental condition is the average in school. His bowels are fairly regular and his appetite fair, although selective, and he has a great fondness for sweets, which we try to curb. The chief reason for my communication is bed wetting, and a habit of striking his head on the pillow while he is in a knee-chest position. He does this shortly after going to bed, during the night, just before awaking and just before wetting. Even during the day if he sits down on a chair he will rock back and forth and bang his head. He is full of energy and plays hard. I have consulted several pediatricians in regard to his condition but none seem to have been able to suggest any correction. Needless to say, it has caused us a great deal of concern as well as annoyance, as he wakes us out of our sleep. He has done this since he was about 2 years old. There are times when he does not do it as frequently as others. Kindly omit name.

M.D., New York.

ANSWER.—Head banging and enuresis in a boy of 9 years are "nervous" habits, usually occurring in a high tensioned, overtiatigued child. Suggestions for overcoming the condition are:

1. Remove, at least temporarily, all overstimulating parts of the environment, such as music lessons, competitive games and exciting movies.

2. Let him secure plenty of rest. During summer vacation the child should arise late (9 a. m.), take an afternoon rest in bed from 1 to 3 p. m. and retire early in the evening. Overexertion from playing too hard should be avoided.

3. Any maladjustments with his teacher, playmates, parents or other relatives should be corrected if possible.

4. Do not discuss the enuresis and head hanging before the boy, except to emphasize quietly and calmly to him that only babies do such things and, as he is now a young man, that young men do not do such things. Frequently an outsider can put this idea over better than the parents. Scolding and shaming do no good.

5. Send him to a boys' summer camp if possible.

6. Administer a sedative at night for several weeks.

7. Read Cameron's "The Nervous Child."

EFFECTS OF BARBITURIC ACID DERIVATIVES ON BLOOD

To the Editor:—What effect do large doses of barbital taken over a long period of time have on the blood? About two years ago I read an article in THE JOURNAL on the effect of barbital on the system generally, but I misplaced the issue containing the article and I have been unable to locate it.

W. L. SIMMONS, M.D., Hazlehurst, Miss.

ANSWER.—Progressive anemia is a not uncommon result of such abuse. Hematoporphyrinuria has also been reported.

SEXUAL NEURASTHENIA

To the Editor:—Following a prolonged engagement, about five years, during which there was considerable sexual stimulation without gratification, a man has developed sexual neurasthenia. The complaints constitute practically all of the best of symptoms enumerated in urologic textbooks, such as extremely frequent and exhausting uncontrollable nocturnal emissions, unpleasant attacks of priapism, severe mental depression, backache, fulness in the perineum and rectum, disorders of sexual function and referred hyperesthesias, some one or several of these being present all the time without cessation for three years now. The condition is extremely incapacitating without any acute phase or gross evidence externally of adequate organic disorder save a run down condition. The constant annoying, but never painful discomfort, in the perineum and rectum makes sitting a trial and forces its way into the consciousness in spite of heroic efforts of will power to exclude it every second of the day without cessation. The sensation is extremely definite and localized. The sufferer has knowingly lied in admitting accusations of chronic gonorrhea, the practice of masturbation and other false data in many instances in order to satisfy the persistence of the physician consulted, or obtain some semblance of belief of the suffering on the part of the physician and so procure some treatment, which was badly needed, regardless of the etiology. This treatment ran the gamut, religiously attended, of irrigations, instillations, dilations, massage, diathermy, topical applications, psychoanalysis, psychiatric examinations, hypnotism and anything and everything advocated. Heavy doses of sedative drugs had no effect. Some definite but slight improvement followed topical applications. Advice to masturbate, abstain or indulge in intercourse was received and, with the exception of the first, which was found to be distasteful, were followed without significant change for better or worse. Accusations of neurotic and hypochondriacal tendency were freely acceded to with the belief stated that they were merely secondary results and dependent on a primary cause and would disappear promptly with relief of the discomfort. The consensus of those consulted establishes the presence of some pathologic change believed to be, however, out of proportion to the complaint. A congestion of the prostate and seminal vesicles is reported with an increase in the leukocyte count of the expression but never frank pus. Marked congestion and granulations of the verumontanum and posterior urethra altered by treatment is also stated to be present. Repeated pleas for a prostatectomy or any radical procedure that would bring relief, even with incapacity resulting, have been refused. The patient, still of sound mind, is absolutely certain of the discomfort being actually present and not imagined, which others have repeatedly claimed. The result is that the patient is almost reduced to invalidism without convincing gross evidence externally for his claimed incapacities. As the sufferer, I would appreciate some definite advice or reference for treatment or consultation and would be glad to be presented for examination, discussion and any treatment at any meeting. At present I must confine myself to light institutional duties of a routine nature. In this condition is there any definite knowledge as to the nature of the pathologic changes and the exact location that is the cause of the very definite sensation of discomfort? Please omit name and address.

M.D., New York.

ANSWER.—There are several points of interest in this description. The suffering is real and not imaginary, and no psychoanalysis or Christian science or like methods of treatment can have any favorable effect. The etiologic factor has been correctly given by the patient; namely, the long period of engagement including prolonged ungratified sexual excitement. The diagnosis is also correct; namely, a congestion of the prostate, prostatic urethra and overstimulated condition of the sexual centers themselves.

What the patient is mostly interested in is the relief of the symptoms. He may have had too much and too strenuous treatment already. The patient should receive every five days (not oftener) gentle massage of the prostate, remembering that it is not the object to squeeze out every drop of secretion from this organ but massage, just like massage in any other organ of the body. There must be absolutely no pain in this procedure. After massage, the patient empties the bladder and receives a deep urethral instillation of weak silver nitrate solution with the Bangs sound syringe. This procedure must also be gentle and practically painless. One should begin with a 1:3,000 solution and gradually increase until 1:500 is reached. If the patient is a married man, he may indulge in normal coitus, whenever he has desire. It is not the coitus that harms but the holding back and especially such practices as coitus interruptus and coitus reservatus.

While under treatment, the patient must abstain from tea, coffee, alcoholic liquors and ungratified sexual excitement.

CARDIOVASCULAR SYPHILIS

To the Editor:—A patient of mine has a history of syphilis of thirty-six years' duration, which has been inadequately treated. His Wassermann reaction is one plus. Clinically, he shows a dilatation of the aorta, especially in its descendent portion. The degree of the dilatation is just short of an aneurysm. The nervous system does not seem to be involved (clinically); no spinal Wassermann test has been done. The available literature on the treatment of cardiovascular syphilis is so contradictory that I should greatly appreciate your discussion of the topic. Please omit name.

M.D., California.

ANSWER.—The presumption is that this patient is in his fifth decade of life. The presence of a dilatation of the aorta, as described, calls for measures to secure the arrest of the process, if possible, but the reversal of the positive Wassermann reaction of the blood as an isolated symptom is of much less, if any, clinical importance in a case of this type. An examination of the spinal fluid is important, provided there are no contraindications in the general condition of the patient; but whether a complicating neurosyphilis is identified or not, the initial indications for treatment are governed by the condition of the cardiovascular system.

In the treatment of the case, it is desirable to avoid therapeutic shock or Herxheimer effect, which may cause a rapid increase in the size of the aneurysmal dilatation. Therapeutic paradox need not be considered, provided the patient's myocardial condition is good and there are no symptoms suggestive of coronary disease.

A suggested course of treatment would consist of bismuth arsphenamine sulphonate, 0.025 Gm. every third day intramuscularly, the dose being cautiously increased through the first six injections to 0.1 Gm. The dose of 0.1 Gm. could then be continued for another six weeks with intervals of four days between injections and, at the end of this period, the adult dose of 0.2 Gm. could be used with weekly intervals. The injections can be continued to the completion of a course of forty, sixty, or even eighty injections, if necessary. Should a bismuth preparatory treatment be desired, 0.5 Gm. of bismuth salicylate could be given once every fifth to seventh day for six or eight injections, after which the full adult dose may be used for another ten injections. Patients of this type may then, if progress is satisfactory and there has been no evidence of unfavorable change in the aneurysm, be given neoarsphenamine and the bismuth preparation simultaneously or in alternation for another two courses of eight or ten injections each.

It is impossible to define exactly either the maximum amount of treatment required or the appropriate tapering off of treatment and the exact time of its discontinuance in a case of this sort. A great deal depends on the condition of the patient at the outset and on his therapeutic progress.

PYORRHEA AND RECESSION OF GUMS

To the Editor:—A woman, aged 42, in perfect physical health, has marked retraction of the gums, and the teeth are becoming loose. The gums are hard and clean and the teeth are exceptionally well cared for. All examinations give negative results. Can you tell me where to look for the cause of this condition and can you give me any information as to prognosis and treatment? This patient has never had pyorrhea. Please omit name.

M.D., Illinois.

ANSWER.—Since the teeth are becoming loose, although there are no gross evidences of inflammation, this case belongs in the pyorrhea group. Gottlieb (Schmutzpyorrhoe, Paradentalpyorrhoe und Alveolaratrophie, Vienna, Urban & Schwarzenberg, 1925) calls this variety diffuse atrophy of the jaw bones; others refer to it as presenile atrophy. Recession of the gums in which local causes are absent or of relative insignificance and in which signs and symptoms of inflammation are not found is relatively rare; such cases comprise about 10 per cent of the cases of pyorrhea. Of these, many have some constitutional disorder, manifest some peculiarity of metabolism or show some evidence of endocrine disturbance. Most, if not all, have a basal metabolism on which the specific dynamic effect of food rich in proteins is quite characteristic (Weinmann: Etiology and Therapy of Diffuse Atrophy of the Alveolar Bones, *Zahnärztl. Rundschau* **37**:1597, 1928. Mueller and Rony: *J. Am. Dent. A.* **17**:326, 1930). The mineral composition of the saliva is said to be characteristic (Becks: *Fortschr. d. Zahnh.* **6**:356, 1926). In spite of these observations, no form of therapy based on them has been found at all promising. Indeed, to the degree that local causes of the condition cannot be disclosed, the prognosis from the standpoint of saving the teeth is bad.

Unusual care should be taken to remove all possible sources of local irritation. Dental restorations, such as crowns, inlays and large fillings, should be carefully examined for overhanging margins. Calculus between the gums and teeth should be removed thoroughly. Deep pockets should be eliminated; surgical resection of the gums may be resorted to in some cases. Overloading of individual teeth or of groups of teeth in biting or in chewing, especially forces that are expended horizontally rather than vertically, should be sought for and done away with as far as possible, even by grinding off faulty arrangements of tooth cusps. In some instances, it has been found that the habit of grinding the teeth during sleep seemed to be a factor in hastening alveolar resorption and recession of the gums. More than usual pains should be taken to keep the mouth clean and free from irritation. Teeth that are loose and not sufficiently involved to be extracted may be temporarily supported by splints. It is needless to suggest that search should be made for some constitutional abnormality. In occasional cases, solution of Potassium arsenite taken internally has seemed to have had a favorable influence in retarding recession of the gums and of alveolar bone.

PRIAPISM

To the Editor:—A married man, aged 49, with an absolutely negative history as regards genito-urinary or venereal disease, and who, for the last ten years, has had connections with his wife not more than once or twice a week, complains of nocturnal erections which began many years ago and are now interfering with his sleep, although they are associated with sexual desire only when he has abstained from intercourse for several days. The prostate is slightly enlarged but there is no dysuria, nycturia or urinary symptoms, and the urine is normal, except that occasionally there is a discharge of phosphates in it. Usual sedatives, such as bromides and phenobarbital, have not given relief. The *p*H concentration of the urine has varied between 6.6 and 4.6, the low figures being the rule. Please suggest treatment and prognosis, and omit name.

M.D., France.

ANSWER.—In all cases of priapism, whether mild or severe, besides syphilis there must be also excluded the presence of leukemia, spinal disease or cerebral neoplasm. If one of these conditions is present the prognosis of course is the prognosis of the diseased underlying cause. If none of these conditions is found, the case must be considered one of idiopathic priapism. Many of these mild cases respond well to treatment, but occasionally they go on to become the severer and more serious forms of the disease.

Even in the absence of any symptoms of congestion of the prostatic urethra, such congestion may be present. It will be well, therefore, to treat the patient at first by massage of the prostate and instillations of weak silver nitrate solution (from 1:3,000 to 1:500) with the Bangs sound syringe. During this period the patient should abstain from tea, coffee and alcoholic liquors. Some patients are cured by this simple procedure, while those who are not should receive epidural injections of either plain sterile physiologic solution of sodium chloride or of this solution combined with a weak solution of procaine hydrochloride. This procedure must be done under strict asepsis and by one familiar with the procedure.

EROSION OF NASAL MUCOUS MEMBRANE

To the Editor:—I have had a number of cases of erosion of the mucous membrane of the nasal septum at times amounting to actual ulceration in cases of long standing covering a few years. These patches, sometimes on one side and sometimes on both sides of the anterior part of the septum, usually the size of a large pea or larger, are always covered with a scab and bleed easily when that is removed. Smears and cultures have always resulted only in staphylococcus or nothing. I have found these exceedingly unyielding to treatment even though carried out for weeks with antiseptics such as compound tincture of benzoin, tincture of iodine, metaphen, hexylresorcinol and others, but have obtained almost complete cures by applying 10 per cent silver nitrate at four or five day intervals with patients using an ordinary nasal oil spray frequently in the meantime. Generally a complete recovery has been impossible to obtain. Can you advise anything in regard to etiology and more effective treatment? Please omit name.

M.D., North Dakota.

ANSWER.—Erosions of the septum are often traumatic in origin, being due either to the habit of picking the nose which is indulged in by so many individuals or to the insertion of various objects into the nose. On the other hand, they are sometimes of infectious origin, as indicated by the microscopic examination of the secretion of the eroded surfaces. Aside from the medication mentioned in the query, the use of a bland ointment made up with a heavy base to which 4 to 6 per cent zinc oxide and about 4 per cent bismuth subnitrate have been added is efficacious, in that one gets not only an astringent effect but, what is probably more important, a protective covering for the eroded area. A complete examination for syphilitic or tuberculous involvement is necessary and, if found, suitable medication is indicated.

POMPHOLYX

To the Editor:—A man, aged 65, seemingly in perfect health otherwise, for the last eleven months has had a series of blisters appearing on the hands alone. They appear and in a few hours have a purulent content, then rupture, and leave a raw surface underneath. About seven to eight at a time make their appearance and show themselves in all stages. They are about the size of a split pea or a little larger. Could you give me a clue as to diagnosis and treatment? Please omit name.

M.D., Nebraska.

ANSWER.—This is a case of pompholyx. The large majority of these are caused by ringworm fungi or yeasts. Has the patient ringworm between the toes, in the groins, or under the finger nails? A mild Whitfield ointment, 1 per cent salicylic acid and 2 per cent benzoic acid in petrolatum or ointment of rose water may be tried once a day, or painting the blisters with 1 per cent solution of potassium permanganate until they dry up and then using the Whitfield ointment. If this ointment irritates, one may use crude coal tar, 2 Gm.; zinc oxide, 2 Gm.; petrolatum, sufficient to make 30 Gm., applied thinly once or twice daily and cleansed with oil. If the patient objects to the ointments by day, he may apply frequently a lotion of salicylic acid and resorcinol, of each 2 per cent in 50 per cent alcohol, using the ointment again at night.

HEATED COD LIVER OIL

To the Editor:—Recently I bought a good quantity of cod liver oil with malt for the children in our school, for children of missionaries and others. It came in 7 pound tins and to have it in usable containers I warmed it and poured it out into 1 and 2 pound jars. Since that preparation has been used there have been quite a number of cases of stomach-ache and looseness of the bowels. Could the heating of the cod liver oil have made any change in it that could have upset the children or shall I have to look elsewhere for the cause? The children had only a teaspoonful of the preparation once a day until lately, when colder weather came on and I increased it to 4wo times a day. They had been taking cod liver oil and malt during previous months, but of a different make, of a different company.

E. L. DAVIS, M.D., Kijabe, Kenya Colony, East Africa.

ANSWER.—Without knowing to what degree of temperature the preparation has been heated, it is impossible to be positive in this matter. There is no doubt that a sufficient degree of heating could seriously damage the preparation. If repeated attempts to give the mixture regularly produce unfavorable results, it should be discarded.

UNUNITED FRACTURE OF FIBULA

To the Editor:—Please advise what you would consider proper treatment for a longitudinal fracture of the lower end of the fibula that failed to unite four months after it occurred. The woman is 57 years old and otherwise healthy. There is little pain but considerable swelling after walking. Would it be advisable to leave it alone? Please omit name.

M.D., Illinois.

ANSWER.—Based on the data given, it would be advisable to leave the ununited fracture alone. If walking becomes painful or the foot tends to fall out of position, a supporting side iron might be applied with great benefit.

LOCAL ANESTHETICS NOT INDICATED IN LUMBAGO

To the Editor:—Has quinine and urea hydrochloride solution ever been used in lumbago? If not, what objection is there, if any, to its use by injection into muscles? Please omit name.

M.D., Michigan.

ANSWER.—Quinine and urea hydrochloride is a local anesthetic agent of prolonged action producing fibrosis as an after-effect. It temporarily relieves pain when injected around a nerve, though the pain may return as a result of the ultimate fibrosis. When injected into a sore muscle its action is likely to be still more unsatisfactory.

SYPHILIS

To the Editor:—A young man after exposure developed a typical hard chancre. Dark field examination was not available. The Wassermann reaction was negative twice. He has had ten neoarsphenamine, 0.75 Gm., treatments and five potassium bismuth tartrate injections. The Wassermann reaction is still negative. What do you advise as further treatment in order to keep the Wassermann reaction negative and get a cure? Please omit name.

M.D., Maine.

ANSWER.—Another course of neoarsphenamine, eight weekly injections, the dose not exceeding 0.6 Gm. for a person of medium weight. Then eight weekly injections of a bismuth compound or insoluble mercury. Between these courses the patient should be examined clinically and serologically. If he shows no indication of syphilis, these courses and the examination should be repeated. Then treatment should be stopped but the examination repeated every month for six months. The sixth examination should include the spinal fluid, cell count, globulin, Wassermann and Kahn and the colloidal gold test. If all results are negative, the patient should return for an examination once every six months for the next fifteen years. If any suggestive nervous abnormalities are found at any time, the examination of the spinal fluid should be repeated.

DEXTROSE (CORN SUGAR) IN DIABETES

To the Editor:—Please advise whether or not there is any advantage in using corn sugar in the treatment of diabetes.

W. E. LEONARD, M.D., Los Angeles.

ANSWER.—There is no advantage in using corn sugar (dextrose) in the treatment of diabetes. The query may be prompted by reports of several investigators who have found that relatively fewer units of insulin are required for each hundred grams of dextrose when the dextrose intake is large. Various explanations are offered for this increasing dextrose equivalent of the insulin unit; the one most probably correct is that when the molecules of the substrate (dextrose) are more numerous the opportunity for interaction with hormone (insulin) molecules is increased.

HYDROCEPHALUS

To the Editor:—A white boy, aged 8 months, has hydrocephalus, possibly the result of a previous meningitis. Last month the head measured 21 inches in circumference; now it is 27 inches. The infant takes the bottle well. A week ago, the baby was unable to utter sounds. I should like to know the prognosis.

M.D., Ohio.

ANSWER.—The treatment of communicating hydrocephalus by any means that has been attempted is usually unsuccessful. Punctures of the corpus callosum have been attempted, drainage of the cisterna pontis lateralis, and numerous other procedures have from time to time been recommended. In such a rapidly progressing hydrocephalus as is described the prognosis is grave, and a rapid, fatal outcome is to be expected.

EMBOLISM FROM VACCINE

To the Editor:—In THE JOURNAL, May 23, page 1826, you say, "It would be dangerous indeed to inject ordinary streptococcic vaccine intravenously because it may contain streptococcal masses that might give rise to pulmonary and other forms of embolism." I have never heard of a streptococcus vaccine being given intravenously and this point has never come to my attention before, but of course the use of typhoid vaccine intravenously as a nonspecific agent is quite common. Is streptococcus vaccine more likely to cause embolism than other vaccines, particularly typhoid? I would appreciate references. Please omit name.

M.D., California.

ANSWER.—While no specific references can be given to reports in the literature concerning the relative danger of embolism from typhoid, streptococcal and other vaccines, the fact remains that streptococci tend to form larger and smaller masses, which might cause embolism. Apparently the intravenous injection of typhoid vaccine has not given rise to embolism.

VAGINAL REACTION AND STERILITY

To the Editor:—I was much interested in your reply on this subject (THE JOURNAL, May 23, p. 1818). You were certainly correct in stating that the reaction of the vaginal secretion is normally acid, while that of the cervix is alkaline. You state, however, that the influence of the chemical reactions of the various portions of the female genital tract on the spermatozoa is still disputed.

There really should be no uncertainty in any particular case of the influence of the various secretions of the female genital tract on the spermatozoa. It is a perfectly simple procedure to obtain specimens of spermatozoa shortly after intercourse from the vagina and cervix and examine these under the microscope. If, as in this case, the condom specimen showed normal spermatozoa, and enough normal lively spermatozoa are found within the female cervix within a few hours after coitus, the husband may be at once absolved from all responsibility as to the sterility and it may be definitely stated that in this case the female secretions have no inimical effect on the spermatozoa. The cause of the sterility must be sought for higher up than the cervix. If, on the other hand, the spermatozoa found within the female cervix are all dead, one may at once diagnose that the cervical secretion has killed the spermatozoa and the object of treatment would be to alter the character of the cervical secretion, irrespective of its chemical reaction.

I do not lay any stress on the presence of dead spermatozoa in the vagina, unless the examination is made shortly after coitus, as they normally die within two hours after ejaculation.

Many other interesting and important deductions can be made as a result of such an examination.

MAX HUHNER, M.D., New York.

Council on Medical Education and Hospitals

COMING EXAMINATIONS

ALASKA: Juneau, Sept. 8. Sec., Dr. Harry C. DeVighne, Juneau.

AMERICAN BOARD OF OTOLARYNGOLOGY: Indianapolis, Sept. 12. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha, Neb.

CALIFORNIA: *Reciprocity.* Los Angeles and San Francisco, Sept. 18. Sec., Dr. Charles B. Pinkham, 420 State Office Building, Sacramento.

NATIONAL BOARD OF MEDICAL EXAMINERS: The examinations will be held at various cities throughout the country where five or more candidates are enrolled, Sept. 14-16. Ex. Sec., Mr. Everett S. Elwood, 225 South 15th St., Philadelphia.

NEW HAMPSHIRE: Concord, Sept. 10-11. Sec., Dr. Charles Duncan, Concord.

NEW YORK: Albany, Buffalo, New York and Syracuse, Sept. 28 to Oct. 1. Chief, Mr. H. J. Hamilton, Room 315, State Education Bldg., Albany.

OKLAHOMA: Oklahoma City, Sept. 8-9. Sec., Dr. J. M. Byrum, Shawnee.

PORTO RICO: San Juan, Sept. 1. Sec., Dr. Diego Biascoechea, P. O. Box 804, San Juan.

WISCONSIN: *Basic Science,* Madison, Sept. 19. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Ave., Milwaukee.

Alaska Reciprocity Report

Dr. Harry C. DeVighne, secretary, Territorial Medical Examining Board of Alaska, reports 1 candidate licensed by reciprocity, April 13, 1931. The following college was represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Medical Evangelists		(1914)	Oregon

Nebraska June Examination

Mrs. Clark Perkins, director, Bureau of Examining Boards, Nebraska Department of Public Welfare, reports the written examination held at Omaha, June 8-9, 1931. The examination covered 10 subjects and included 88 questions. An average of 75 per cent was required to pass. Forty-seven candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
College of Medical Evangelists		(1931)	83.9
Creighton University School of Medicine		(1929) (1931)	79.8, 81.3, 82.1, 82.8, 83.9, 84, 85, 85.1, 85.6, 86, 87, 87.3
University of Nebraska College of Medicine		(1929) (1930)	80.1, 80.8, 83.8, 86.3, (1931) 78.6, 80.2, 80.4, 80.7, 80.8, 81.3, 82.3, 82.4, 83.3, 83.4, 84.2, 84.4, 84.5, 84.7, 84.9, 84.9, 85.1, 85.1, 86, 86, 86, 86.2, 86.4, 86.4, 86.6, 86.7, 86.9, 87.7, 88.1
University and Bellevue Hospital Medical College		(1930)	86

Mrs. Perkins also reports 8 candidates licensed by reciprocity with other states, and 1 candidate by the endorsement of credentials from Jan. 7 to July 10, 1931. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas School of Medicine		(1928)	Arkansas
University of Colorado School of Medicine		(1920)	Colorado
State University of Iowa College of Medicine		(1919), (1926)	Iowa
University of Michigan Medical School		(1922)	Michigan
Cornell University Medical College		(1923)	Michigan
University of Pennsylvania School of Medicine		(1925)	Penna.
University of Pittsburgh School of Medicine		(1926)	Penna.

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement of
Rush Medical College		(1930)	N. B. M. Ex.

Nevada May Examination

Dr. Edward E. Hamer, secretary, Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 4-6, 1931. The examination covered 11 subjects and included 110 questions. An average of 75 per cent was required to pass. One candidate was examined and passed. Seven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Member and Licentiate of the Royal College of Physicians, London, and Royal Coll. of Surgs., England		(1908)	83.6

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Loyola University School of Medicine		(1917)	Utah
University of Louisville School of Medicine		(1905)	Kentucky
Detroit College of Medicine and Surgery		(1929)	Michigan
University of Nebraska College of Medicine		(1925)	Nebraska
University and Bellevue Hospital Medical College		(1925)	Utah
Medico Chirurgical College of Philadelphia		(1914)	California
Royal University of Naples		(1906)	Illinois

Dr. Hamer also reports one physician examined and passed at a special meeting held Jan. 31, 1931.

College	PASSED	Year Grad.	Per Cent
Member and Licentiate of the Royal College of Physicians, London, and the Royal Coll. of Surgs., England		(1921)	*

* Grade not given.

Book Notices

PRACTICAL CLINICAL PSYCHIATRY FOR STUDENTS AND PRACTITIONERS. By Edward A. Strecker, A.M., M.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, Philadelphia, and Franklin G. Ebaugh, A.B., M.D., Professor of Psychiatry, University of Colorado Medical School. Third edition. Cloth. Price, $4. Pp. 553, with 47 illustrations. Philadelphia: P. Blakiston's Son & Company, Inc., 1931.

This new edition of a well known and popular work contains about 100 pages of new material, numerous added illustrations and a new chapter entitled "Practical Aspects of Child Guidance Problems." The authors have attempted a complete revision to emphasize further the important preventive aspects of mental disorders. As an introduction to modern psychiatry for student or general practitioner, this volume is unsurpassed. Its convenient size and clear presentation of difficult subjects is a combination rarely found. The two important methods of studying a case, namely, the longitudinal or life history approach and the method called "individual plus situation leading to reaction," are ably described. The case method of presentation is used and the classification of twenty-one groups in use in most mental hospitals is followed. The book emphasizes the psychologic aspects of the two great groups of manic-depressive and schizophrenia though not denying the possible future discovery of definite organic etiologic factors. At present this living pathologic condition—the distortion of personality during the prepsychotic stage—seems most worthy of intensive study. The resulting justifiable optimism is decidedly welcome. There is a genuine need for this textbook and it should go on through many editions.

PHOTOBIOLOGIE: GRUNDLAGEN, ERGEBNISSE, AUSBLICKE. Von Ludwig Pincussen, Dr. Med. et Phil., Direktor der biolog-chemischen Abteilung am Städt. Krankenhaus am Urban zu Berlin. Paper. Price, 36 marks. Pp. 543, with 101 illustrations. Leipzig: Georg Thieme, 1930.

There are two main subdivisions of this book. In the first 188 pages the author discusses the various sources of light that have been used in the study of effects produced by various types of irradiation and the laws of irradiation, fluorescence and photoelectric phenomena. The section ends with a rather exhaustive exposition of physicochemical reactions effected under the influence of light. The remaining pages are of more interest to biologists and medical men. In this section are discussed the effects of light of various wavelengths on protoplasm of plants and animals, on growth, on ferments, toxins, antibodies, isolated organs, basal metabolism and mineral metabolism, and on various organs of the body. Those interested in irradiation will find this book invaluable because it contains under one cover the collected information on the effects of light on living forms and living processes.

BIOLOGY IN HUMAN AFFAIRS. Edited by Edward M. East. Cloth. Price, $3.50. Pp. 399. New York: McGraw-Hill Book Company, Inc., 1931.

This volume is another of the symposiums recently gaining in popularity in which authorities combine to present available knowledge and the probabilities for the future in various fields. The present volume includes as authors men selected by Professor East not only for their knowledge and authoritative positions but also for their special ability to present scientific information in an easily understandable manner. The introduction by Professor East explains the relationship of biology to other sciences. The prospects of the social sciences are outlined by Frank H. Hankins of the department of sociology of Smith College. Recent developments in psychology, including the fields of education and industry, are covered by Professors

Jastrow, Terman and Marshall. The section on industry is set forth by Walter V. Bingham, who has been particularly concerned with the application of psychology to problems of research having to do with personnel. Professor East himself considers recent points of view on heredity. Medicine and public health are covered by Drs. Morris Fishbein and H. S. Cumming. Finally, zoology is assigned to H. M. Parshley, food research to Dr. F. Jones, and diet and nutrition to E. V. McCollum. The book is well printed in easily readable type and will serve to orient any reader in the various fields that are discussed. The authors have attempted particularly to forecast progress and the trend of research.

UNTERSUCHUNGEN ÜBER DAS WEIBLICHE SEXUALHORMON (FOLLIKEL- ODER BRUNSTHORMON). Von Adolf Butenandt. Paper. Price, 8 marks. Pp. 93, with illustrations. Berlin: Weidmannsche Buchhandlung, 1931.

"Investigations of the Female Sex Hormone" is written from the chemical point of view by an organic chemist. In the first part the author gives a brief historical review of the more important physiologic contributions to the study of the internal secretions of the ovary. The more recent work on the follicular hormone and the Allen-Doisy bio-assay method are discussed in greater detail. The second section deals with the preparation of extracts of the ovary and placenta which contain the follicular hormone. Some of the author's experiments on the purification are given in detail. Attention is called to the importance of the discovery of Zondek and Aschheim that the urine of pregnant women contains large quantities of the estrus hormone. In the third section, details of the author's work on the isolation of the estrus hormone are given. The important features are: (1) the distribution of the crude extract between immiscible solvents, (2) the distribution between aqueous alkalis and organic solvents, and (3) the distillation at 0.03 mm. pressure. By proper utilization of these procedures, the pure crystalline hormone was isolated. The method whereby Doisy isolated the hormone is given in detail. Chemical work on the compound gives the following data: formula, $C_{18}H_{22}O_2$; one hydroxyl; one carbonyl; dextrorotatory; soluble in alcohols, acetone, chloroform and benzene; less soluble in ether and ethyl acetate and almost insoluble in water and petroleum benzin. Owing to the incomplete nature of the chemical work, the structure of the compound is not discussed. The monograph is well written and the topics discussed should be of interest to the chemist. It is doubtful whether the treatment would be of much interest to the clinician.

FIGHTING DISEASE WITH DRUGS: THE STORY OF PHARMACY. A SYMPOSIUM. Edited by John C. Krantz, Jr. With an introduction by Dr. James H. Beal. A publication of the National Conference of Pharmaceutical Research. Cloth. Price, $2. Pp. 230, with 27 illustrations. Baltimore: Williams & Wilkins Company, 1931.

The use of drugs in the treatment of disease is almost as old as the science of medicine. Much of this history is covered in that interesting book by La Wall called "Four Thousand Years of Pharmacy." The sketches included in this volume are issued as a symposium with the aid of several philanthropists interested in pharmacy and with a view to stimulating the scientific use of medicaments. The various chapters of the book describe the various uses of remedies in the control of disease, covering such subjects as the sources of drugs, drugs derived from vegetables, drugs from mineral sources, vitamins, various chemicals, methods of standardization and modern pharmacy. The book is handsomely illustrated and replete with information of importance to every physician.

THE HISTORY OF MEDICINE: A SHORT SYNOPSIS. By Bernard Dawson, M.D., F.R.C.S. Cloth. Price, 7/6 net. Pp. 160, with 31 illustrations. London: H. K. Lewis & Company, Ltd., 1931.

Recent years have seen the publication of a considerable number of volumes on the history of medicine. The book by Dawson contains a number of lectures delivered to medical students in Australia. The book is essentially a compilation of material from other books on the subject. It has the advantage of the author's personal point of view, his sense of humor, and some instinct which helps him select material that is of interest. Such books can do much to increase the interest of students in medical history and thereby to give them the background they ought to have.

DISEASES OF THE TONGUE. By Walter G. Spencer, M.S., F.R.C.S., Consulting Surgeon, Westminster Hospital, and Stanford Cade, F.R.C.S., Assistant Surgeon, Westminster Hospital. Being the third edition of Butlin's "Diseases of the Tongue." Third edition. Cloth. Price, 35/— net. Pp. 561, with 162 illustrations. Philadelphia: P. Blakiston's Son and Company, 1931.

This book dates back nearly half a century. It was written by Henry Butlin in 1885. The second edition came in 1900, and to this Spencer's name was added. Books on special lines of practice are directly valuable to the specialist and helpful to the general practitioner. The tongue is so intimately related to the mouth, salivary glands, throat and upper digestive tract that it is difficult to see why a book should be written on the subject. That Butlin's book has lived so successfully is high tribute to the author. Its successful revision is equally high tribute to the present authors. The style of the text is not always clear; in many places it is difficult to understand. This is doubtless due to the original style of Butlin, which the revisers chose not to change out of respect. The section dealing with anatomy, including embryology, and physiology is not only interesting but useful to the surgeon. While the book deals with lesions in general, the subject of cancer receives the most generous treatment. After a comprehensive review of cancer from the earliest records of the disease, the authors emphasize the use of diathermy, but more urgently the use of radium, in its treatment. A large and interesting case report lends encouragement in favor of radium. If for no other reason, this book is both interesting and valuable for the comprehensive discussion of cancer and its treatment. Radium is not the final answer to the cancer problem, but, if the proper use of this agent offers help beyond surgery, its intelligent use should be encouraged. The crux of radium therapy lies in its intelligent application.

OPERATIVE CHIRURGIE DER KNOCHENBRÜCHE. BAND I: OPERATIONEN AM FRISCHEN UND VERSCHLEPPTEN KNOCHENBRUCH. Von Professor Fritz König. Paper. Price, 27 marks. Pp. 194, with 200 illustrations. Berlin: Julius Springer, 1931.

Beginning with the treatment of pseudarthroses and badly united fractures, the operative surgery of fractures has been greatly extended today. The author has undertaken a description of the changes found in the exposed tissues of fresh and ununited fractures, as a basis for the better understanding of the biologic processes involved. Added to the clinical and roentgen knowledge, these observations are of value. The first portion of the book is devoted to a discussion of general osteosynthesis. The anatomic conditions found, indications, aseptic technic, choice of anesthetic, and operative procedure are detailed. The methods of artificial fixation of the fractured bones by suture, peg, plate and screws are described. There is a chapter on the operative treatment of compound fractures and their postoperative care. The second part of the book deals with special osteosynthesis of different bones. It is well illustrated with numerous roentgenograms and drawings. The author has increased the knowledge of biologic processes in bone fractures, through his studies and results obtained from operative surgical treatment.

RADIUM TREATMENT OF CANCER AT THE CURIE INSTITUTE, PARIS. By A. Lacassagne. Paper. Pp. 52, with 17 illustrations. New York: Thomas Nelson & Sons [n. d.]

In his introductory remarks the author makes a few statements which may be taken to heart by anybody whose therapeutic enthusiasm may carry him beyond the limit of definitely established facts. He asserts that radium therapy has hardly advanced beyond the experimental stage and that this fact, together with the occasional neglect of fundamental physiologic and physical facts, has produced a literature that is confusing and contradictory in its assertions. It is the author's distinctly pronounced intention to confine himself to a description of the methods employed at the Curie Institute of Paris and the results obtained thereby and not to indulge in historical accounts or criticism of procedures practiced elsewhere. The possible causes of cancer and the action of radiation on cancerous tissues are discussed. Attempts at classifying cancers into more or less radiosensitive types by counting mitoses in small bioptic specimens are of a rather precarious value. Because it is as

a rule impossible to predict with certainty the radiation dose necessary for the complete destruction of a given cancer, usually there is administered the largest dose compatible with maintaining the integrity of the surrounding healthy structures. Biologic considerations are supposed to favor the administration of the entire cancer killing dose at one sitting, which recommendation conforms with the somewhat discredited concept of Wintz's carcinoma dose. The technic of administering radium and x-rays and implanting radon needles is minutely described and tables for the estimation of the dose administered are furnished. The correlation between the histologic characteristics of malignant tumors and their radiosensitiveness is also discussed. The results are reported to be quite favorable in accessible tumors and discouraging in deepseated growths. The prognosis to a great extent depends on the presence or absence of metastatic involvement. The author presents statistics to show that, in cancers of the urinary bladder and prostate, radiotherapeutic efforts are practically futile. One may not agree with all the author's theories and conclusions, but it may be said that the whole tenor of this pamphlet is in pleasing contrast to the glowing reports of other radiologists, in whose publications their enthusiasm runs riot with their veracity and good judgment.

RECIENTES ADQUISICIONES EN PEDIATRÍA. Por los Doctores Wilfred J. Pearson, médico especialista del University College Hospital, de la Policlínica del Great Ormond Street Hospital, y W. C. Wyllie, médico de la Policlínico del Great Ormond Street Hospital. Traducción de la segunda edición inglesa por los Doctores Enrique Jaso, médico asistente de la inclusa de Madrid, y A. A. Muñoyerro Pretel. Prólogo de J. A. Alonso-Muñoyerro, médico de número de la Beneficencia Provincial e Institución de Puericultura. (Published in two parts.) Cloth. Pp. 804, with 52 illustrations. Madrid: Javier Morata, 1931.

This translation offers Spanish physicians a good modern textbook in pediatrics. For the most part the translators have rendered a faithful transcription. A few discrepancies are noted; the third and fourth chapters of the English book are written as one in the Spanish; the succeeding chapter titles in the Spanish do not coincide with the English ones. This decreases the total number of chapters by one in the translation. In the preface, minor errors in copying names occur. The reproductions of the roentgenograms are not as clear as those in the English volume.

NOGUCHI. By Gustav Eckstein. Cloth. Price, $5. Pp. 419, with 13 illustrations. New York: Harper & Brothers, 1931.

The time is short since Noguchi passed from the medical scene, perhaps too short for the development of a critical biography. The journalistic interest in Noguchi is, however, more intense now than it may be in the future and the publishers perhaps had this in mind in hastening the publication of this first biography. The book is intensely interesting; certainly it is thorough. It covers every phase of the investigator's life; it includes numerous anecdotes and intimate papers. If there is any criticism at all to be made of it, it is one that applies much more to other recent biographies not only in medicine but in other fields. It is not so much a biography as a eulogy. It is ecstatic, it is written in short sentences that betray the enthusiasm and excitement rather than the calm, critical judgment of the biographer. It would be interesting to see the type of biography of Noguchi that the young author might write when age and experience confer on him a little more seriousness and a little less *joie de vivre*.

BAKTERIOLOGISCHES TASCHENBUCH. Die wichtigsten technischen Vorschriften zur bakteriologischen Laboratoriumsarbeit. Bearbeitet von Prof. Dr. Otto Olsen, a. o. Professor für Hygiene und Bakteriologie an der Universität Berlin, und Prof. Dr. Carl Prausnitz, o. ö. Professor für Hygiene und Bakteriologie an der Universität Breslau. Twenty-ninth edition. Cloth. Price, 3.60 marks. Pp. 168. Leipzig: Curt Kabitzsch, 1931.

This little laboratory manual was first published in 1889. Bacteriologic laboratory methods are described under the usual headings, such as microscopic technic, preparation of mediums, staining, and special methods. Forty-five organisms are described, these being the ones most commonly met in clinical laboratory work. Some of the procedures are given with a sufficient amount of detail, while others would be difficult to follow for any one except an experienced worker.

A MANUAL OF TUBERCULOSIS FOR NURSES. By E. Ashworth Underwood, M.A., B.Sc., M.B., Deputy Medical Officer of Health and Tuberculosis Officer, County Borough of Rotherham. With an introduction by Professor J. R. Currie, M.A., M.D., M.R.C.P., Professor of Public Health in the University of Glasgow. Cloth. Price, $2.50. Pp. 272, with 30 illustrations. New York: William Wood & Company, 1931.

This is, as its name implies, a compend for the nurse. It covers all the aspects of tuberculosis study, is written in simple language and is attractive. The work is not confined to nursing instructions exclusively but takes up such subjects as symptomatology, light treatment, sanatorium and dispensary treatment, bone tuberculosis, tuberculosis in children, and bacteriology.

LEHRBUCH DER INNEREN MEDIZIN. Von Professor Dr. Theodor Brugsch, o. ö. Professor der Medizin an der vereinigten Friedrichs-Universität Halle-Wittenberg. In two volumes. Band II. Paper. Price, 30 marks. Pp. 863-1818, with 304 illustrations. Berlin: Urban & Schwarzenberg, 1931.

The first volume of this textbook of internal medicine was reviewed in THE JOURNAL, May 23. The second volume deals particularly with the respiratory tract, goiter, diseases of the digestive tract and of digestion, jaundice, diseases of the spleen and the kidneys, diseases of the joints, diseases of the nervous system, diseases of occupation, and poisoning. The volume has all the usual thoroughness of German contributions. It has brief references to cases, inserted in smaller type. The illustrations are carefully selected, many of them being in color. The work is well up to the standard of textbooks of internal medicine and certainly the equal of any of the volumes available in English.

TEXTBOOK OF HISTOLOGY FOR MEDICAL AND DENTAL STUDENTS. By Eugene C. Piette, M.D., Pathologist and Director of the Laboratory of the West Suburban Hospital, Oak Park, Illinois. Cloth. Price, $4.50. Pp. 466, with 277 illustrations. Philadelphia: F. A. Davis Company, 1931.

The ground covered is that surveyed in courses on elementary histology for medical students except that more space is devoted to the teeth than usual. The style can hardly be called idiomatic and the grammatical construction is sometimes faulty. Boldface type has been used to save the student the labor of underlining catch words and phases. Little is to be found that is original in method of presentation, point of view or material. It is a compilation from various textbooks and has all the traditional errors and inaccuracies. Most of the illustrations are taken from Shaffer's textbook. No careful survey of recent literature has been attempted and, with the exception of the section on the teeth, the citations from current work are uncritical. Occasionally the German terms are translated literally without reference to current usage. Thus, one reads of the "inner secretory rôle" of the ovary, the "large hemispheres" and the "trunk" of the brain. It is just another textbook and has little to justify its existence.

DIE EIGENNAMEN IN DER KRANKHEITSTERMINOLOGIE. Von I. Fischer. Paper. Price, 5 marks. Pp. 143. Vienna: Moritz Perles, 1931.

Most eponyms are covered in the available medical dictionaries. However, the brief items there published do not supply the origin of the terms, the literary references to their use or anything of their history. Dr. Fischer has taken advantage of the interest in this field and has collected some hundreds of eponyms with the associated data that have been mentioned. His book is dedicated to Fielding H. Garrison. Much might be said of the difficulty of eponyms in a science as international as is medicine, but the review hardly demands such a critical discussion. For those interested in the subject this compilation will be a valuable work of reference.

DISCOVERING OURSELVES: A VIEW OF THE HUMAN MIND AND HOW IT WORKS. By Edward A. Strecker, A.M., M.D., and Kenneth E. Appel, Ph.D., M.D. Cloth. Price, $3. Pp. 306, with 28 illustrations. New York: Macmillan Company, 1931.

There can be no question about the need for more general dissemination of the methods of maintaining mental health. The difficulty with most of the material on mental health or mental hygiene that has been prepared for the public has been its complexity and lack of interest. The first part of this book deals with conceptions of modern psychology, and the second

part with the psychology of everyday life. There are good discussions of the emotions, extroversion and introversion, rationalization and repression, as well as projection, the inferiority complex and sublimation. The material is presented in an interesting fashion, and is given in simple and easily understood language. The material concerning hysteria and neurasthenia is especially clear and well prepared. There is also a good discussion of nervousness. Those who read this book will gain a great deal from it, which will be useful in adjusting their lives and increasing efficiency and happiness. It is to be hoped that the book will find many readers.

EGYPT: THE HOME OF THE OCCULT SCIENCES, WITH SPECIAL REFERENCE TO IMHOTEP, THE MYSTERIOUS WISE MAN AND EGYPTIAN GOD OF MEDICINE. By T. Gerald Garry, M.D., M.Ch., M.A.O., Senior Physician, Anglo-American Hospital, Cairo. Cloth. Price, 7/6d. Pp. 93. London: John Bale, Sons & Danielsson, Ltd., 1931.

The great god Imhotep preceded the scientific Greek schools of medicine. He was essentially a magician. Hence this book on Egypt deals with magic, the use of signs and symbols and magical figures. The second chapter concerns magical ceremonies, and the concluding sections of the book include the practice of medicine among the ancient Egyptians and a special study of Imhotep. Reference is made to the Hearst, Berlin, Ebers and Edwin Smith papyri. There are numerous quotations from these documents. The author makes it clear that Imhotep was not in any sense of the word a medical scientist but wholly a magician and priest physician.

THE MAKING OF MAN: AN OUTLINE OF ANTHROPOLOGY. Edited by V. F. Calverton. Cloth. Price, 95 cents. Pp. 879. New York: Modern Library, 1931.

This new addition to the Modern Library provides at a reasonable price in a compact form a series of essays on anthropology that should be of especial interest to physicians. Anthropology and ethnology are important sciences in relationship particularly to problems of nervous and mental diseases. In addition to discussing the origin of man and the growth of race and language, this volume has references on social organization, sexual customs, religion, and the evolution of attitudes. The editor of the book has chosen from all the well known anthropologists particularly those who are established as scientific observers. The physician who wishes to read material of the greatest interest and of close relationship to his daily work will find this book easy to carry, easy to read and available at a most reasonable price.

THE PROCEEDINGS OF THE CHARAKA CLUB. Volume VII. Post Multa Virtus Opera Laxare Solet. Boards. Price, $5. Pp. 190. New York: Paul B. Hoeber, Inc., 1931.

The proceedings of the Charaka Club now command a premium. No doubt this will apply equally to volume VII because it is issued in a limited publication and because it includes material that is certain to attract numerous readers. The Charaka Club includes thirty-four leaders of medicine, almost all residing in the eastern part of the United States, apparently men who are interested not only in medicine itself but in the esthetics of medicine, in its history and in similar subjects. The essays read before the club are here collected in book form. They include material in the field of architecture and art. They include fictional sketches, poems, historical items and humor. The authors in the volume include such notable medical writers as Frederick Peterson, Joseph Collins, Edward L. Keyes, C. N. B. Camac and George D. Stewart.

CENTRAL NARCOTICS INTELLIGENCE BUREAU, ANNUAL REPORT FOR THE YEAR 1930. Egyptian Government. Paper. Pp. 109, with illustrations. Cairo: Government Press, 1931.

It is generally emphasized that the problem of narcotic control in Egypt is the worst in the world; hence the bureau charged with narcotic control in that country has developed a report that is of importance and interest to every one who is concerned in this field. The book begins with a discussion of foreign sources of supply, describing the special gangs that have been interested in smuggling and the technic that was used. It discusses protection against smuggling, the present procedure in Egypt, the laws and progress made during the year. The figures supplied are indeed horrifying. Apparently the problem of addiction is associated with divorce and with insanity; it afflicts all classes of society and involves the use of numerous types of drugs. The matter seems to be considered more a police problem than a medical one. The book includes portraits of the most notorious drug smugglers of many nations; it appears that other nations bear some part of the responsibility for the devastation of Egypt.

AMERICAN STANDARDS AND PLANES OF LIVING: READINGS IN THE SOCIAL ECONOMICS OF CONSUMPTION. Edited by Thomas D. Eliot, Professor of Sociology, Northwestern University. Cloth. Price, $5. Pp. 931. Boston: Ginn & Company, 1931.

In this volume the editor has collected for teaching purposes a vast amount of published material on the main topic that the book discusses. He illustrates actual standards of living, the struggle to raise standards of groups, standards of home economics, the appraisal of luxuries, family budgets, the cost of children, the cost of medical care, the problem of birth control, and innumerable similar topics. The work is essentially a textbook for students of sociology, made of selected readings and supplemented by bibliographies and intelligent questions. Any one interested in writing on economic subjects will find this the most valuable reference work anywhere available and full of stimulating facts and suggestions.

Medicolegal

Electric Shock, Cancer and Expert Testimony

(Conduitt v. Trenton Gas & Electric Co. (Mo.), 31 S.W. (2d) 21)

The plaintiff, attributing her ill health to an electric shock received through the lighting fixtures in her home as the result of the negligence of the defendant, brought suit and obtained judgment. The defendant appealed to the Supreme Court of Missouri, Division No. 1. While the appeal was pending the plaintiff died. The suit was revived by her executor. The judgment of the trial court was reversed and the cause remanded.

The defendant's system of wires in the immediate vicinity of the plaintiff's residence included a primary line carrying 2,300 volts of electricity and running from the generating plant to a transformer about two blocks away. There the current was reduced to 110 volts, for use in the residences served by that circuit. There was no ground wire at the transformer to carry off any excessive current. Carried on the same poles that carried the household service wire was a street lighting wire, charged with a current of probably 1,600 to 1,800 volts. During the evening of Aug. 14, 1924, the limb of a tree fell across the street lighting wire and the service wires, at a point about two blocks distant from the plaintiff's residence. It pushed the street lighting wire and one of the two service wires together and held them in contact with each other. At the point of contact the wires were covered by a substance referred to by some witnesses as "insulation" and by others as "water-proof covering." The covering was water-soaked and not burned. At the time of the accident, the house wiring and lighting fixtures were in good condition. There was no evidence to show that the floor on which the plaintiff stood when the accident occurred was not dry.

At the time of the accident, the plaintiff seems to have been to all external appearances in good health. From 1902 to 1925 she consulted oculists on several occasions, to be fitted with glasses for far-sightedness. In 1914 an exophthalmic goiter was removed. In 1919 a cancerous tumor a few inches above her left breast was removed, as were also her tonsils and a mole on her face. Her recovery was apparently complete, for during the next five years and up to the time of the accident she felt and appeared strong and vigorous, gained some 15 pounds in weight and was heavier than she ever had been, and did various kinds of work, such as clerking at times, at times doing her own housework, making bread for sale, tending her garden, mowing her yard, and so on.

About 9:30 p. m., Aug. 14, 1924, when the plaintiff pulled the drop chain on an electric light fixture in her dining room she "got a terrible jerking sensation, a shock in her left arm," having taken the chain in her left hand. A few minutes later

she undertook, again with her left hand, to turn on the electric light in a lavatory and had to pull the light socket off the wall in order to get loose. Several persons whose residences were on the same electric circuit were similarly shocked about the same time. According to the plaintiff's testimony, when she arose on the morning following the electric shock her left eyelid was drooping and the vision of the eye was blurred. Her left hand and arm were numb, and there was a numbness down her back on the left side. Her hand began to pain immediately; it pained all the time and gradually grew worse. Later she experienced soreness in her chest. She had never experienced any of these pains or symptoms before. She did not consult a physician until two weeks after the accident, because she did not think the shock was serious and believed in Christian science. Her left hand and arm gradually became smaller, and by the autumn of 1925, a year after the accident, the left arm was much shrunken and the muscles of the left shoulder had wasted away. In February, 1926, she became paralyzed from the waist down, and on February 9 she was taken to the Mayo Clinic. After remaining there seven or eight days she returned to Trenton, where she entered a hospital. At the time of the trial, May, 1926, she was brought on a stretcher to give her testimony. A few months thereafter she died. The published court decision discloses no evidence of an autopsy.

A physician, who several years before had fitted the plaintiff with glasses, testified that when she consulted him first after the accident she complained of her vision and lack of sensation in her left hand and arm. There was a marked drooping of her eyelid and the pupil was contracted. He had never observed such a condition in this patient before. He last examined her eyes in December, 1925, when he found 1/6 vision in the left eye and normal vision in the right. She had a condition that was produced suddenly, and the shock, as described to him by the plaintiff, was in his opinion sufficient to produce it. He testified further that a latent cancer could be activated into actual and earlier growth by a strong electric shock and probably would be. Another medical witness for the plaintiff gave similar testimony. Two physicians testifying for the defendant testified substantially that a shock of the character described by the plaintiff could not have caused the drooping of her eyelid, the condition of her hand and arm, or the paralysis. Physicians who examined the plaintiff at the Mayo Clinic were of the opinion that her condition was due to a cancerous tumor on her spinal cord at the level of the eighth dorsal and first cervical [sic] segments, involving the spinal roots on the left side and the cervical sympathetic cord on that side. They thought that the tumor was probably primary in the breast, that it had existed for years and that it might have been a recurrence of the cancer removed in 1919. In their opinion, the electric shock described by the plaintiff had nothing to do with her condition as developed by their examination. They found no imperfection in the sight of her eye. The ptosis or drooping of the eyelid and the condition of her hand and arm were all due to the cancerous tumor. There was nothing about her condition that in their opinion could not be attributed to the tumor. An electric shock would not, in their opinion, cause a cancerous tumor. The electric shock respondent claimed to have received had, in their opinion, nothing to do with her condition as disclosed when they examined her.

Concerning the cause of the plaintiff's condition, said the Supreme Court, there was a sharp conflict in the evidence. The medical testimony tending to show that it was due to an electric shock was substantial, not conjectural. On the whole the plaintiff made a case for the jury. The defendant complained, however, among other things, of an instruction given by the trial court on behalf of the plaintiff, that "The jury is not bound by expert testimony, but it may be considered by you in connection with the other evidence in the case." One of the hotly contested issues of fact, said the court, was whether the paralysis and cancer from which the plaintiff suffered were due to the electric shock or to certain preexisting physical and nervous ailments. Obviously, on these questions the seasoned opinion of medical experts must be controlling. It was, indeed, practically the only evidence available. This being true, to tell the jury that they were not bound by this testimony and that they might (and therefore might not) consider it, was to strike at some of the most important evidence in the case. The fact that other instructions admonished the jury to consider all of the evidence did not cure the error because the two directions were inconsistent and left the jury without any intelligible guide.

Workmen's Compensation Acts: Special Nurse Not an Employee.—A trained nurse called in by a railroad company on a special case is not in the service of, nor a servant of, the company, within the meaning of the workmen's compensation act. She is a professional person like a physician, employed to exercise her calling to the best of her ability according to her own direction, subject only to the general directions of the physician in charge. The circumstance that nurses are subject to the general supervision of the physician in charge and do not, like such physicians, act entirely on their own responsibility, has not led the courts to distinguish between physicians and nurses in this regard. The rule rests on the fact that one who employs such a nurse to take care of an injured person undertakes, not to treat the employee through the agency of the nurse, but to procure a nurse for the special purpose for which her services are required. That is all the railroad company did in this case. Although the nurse engaged for special duty was in a general sense employed by the railroad company, she was not its employee. She occupied the position of an independent contractor following her own calling, rather than that of one in the service of the employer. The fact that she was employed by a railroad company and not by a hospital in no wise altered her status. While the foregoing rule is applicable to special nurses, a different rule may be applied to a nurse who places her time and service at the call of her employer without regard to special cases.—*State Industrial Board v. New York Central Railroad Co. (N. Y.), 173 N. E. 218, reversing Ranouf v. New York Central Railroad Co. (N. Y.), 240 N. Y. S. 720, J. A. M. A. 96: 638 (Feb. 21) 1931.*

Society Proceedings

COMING MEETINGS

American Academy of Ophthalmology and Otolaryngology, French Lick, Indiana, September 14-19. Dr. William P. Wherry, Medical Arts Building, Omaha, Executive Secretary.

American Academy of Physical Therapy, Montreal, September 3-4. Dr. Thomas L. Smyth, 111 North Eighth Street, Allentown, Pa., Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, White Sulphur Springs, W. Va., September 14-16. Dr. M. A. Tate, 19 West Seventh Street, Cincinnati, Secretary.

American Congress of Physical Therapy, Omaha, October 5-8. D. F. L. Wahrer, 22 South Center Street, Marshalltown, Iowa, Secretary.

American Public Health Association, Montreal, September 14-17. Dr. Kendall Emerson, 450 Seventh Avenue, New York, Acting Executive Secretary.

American Roentgen Ray Society, Atlantic City, September 22-25. Dr. John T. Murphy, 421 Michigan Street, Toledo, Ohio, Secretary.

Colorado State Medical Society, Colorado Springs, September 15-17. Mr. Harvey T. Sethman, Metropolitan Building, Denver, Executive Secretary.

Idaho State Medical Association, Boise, September 29-30. Dr. Harold W. Stone, 105 North Eighth Street, Boise, Secretary.

Indiana State Medical Association, Indianapolis, September 23-25. Mr. T. A. Hendricks, 23 East Ohio Street, Indianapolis, Executive Sec'y.

Kansas City Southwest Clinical Society, Kansas City, Mo., October 5-10. Dr. Joseph E. Welker, 906 Grand Avenue, Kansas City, Mo., Secretary.

Kentucky State Medical Association, Lexington, September 7-10. Dr. Arthur T. McCormack, 532 West Main Street, Louisville, Secretary.

Michigan State Medical Society, Pontiac, September 22-24. Dr. F. C. Warnshuis, 148 Monroe Avenue, Grand Rapids, Secretary.

National Medical Association, Atlanta, Ga., August 17-21. Dr. Walter G. Alexander, 136 West Kinney Street, Newark, N. J., Secretary.

Nevada State Medical Association, Ely, September 18-19. Dr. H. J. Brown, 120 North Virginia Street, Reno, Secretary.

Pacific Association of Railway Surgeons, Yosemite Valley, August 28-29. Dr. W. T. Cummins, Southern Pacific General Hospital, San Francisco, Secretary.

Pacific Northwest Orthopedic Association, Vancouver, British Columbia, September 5. Dr. Charles McClure, 322 Alder Street, Portland, Ore., Secretary.

Pennsylvania, Medical Society of the State of, Scranton, October 5-8. Dr. Walter F. Donaldson, 500 Penn Avenue, Pittsburgh, Secretary.

Utah State Medical Association, Salt Lake City, September 9-11. Dr. M. M. Critchlow, Boston Building, Salt Lake City, Secretary.

Vermont State Medical Society, Rutland, October 8-9. Dr. William G. Ricker, 31 Main Street, St. Johnsbury, Secretary.

Virginia, Medical Society of, Roanoke, October 6-8. Miss Agnes V. Edwards, 104½ West Grace Street, Richmond, Secretary.

Wisconsin, State Medical Society of, Madison, September 9-11. Mr. J. G. Crownhart, 119 East Washington Avenue, Madison, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Medical Sciences, Philadelphia

181: 745-892 (June) 1931

*Iodine in Exophthalmic Goiter: Comparison of Effect of Ethyl Iodide and Potassium Iodide with That of Lugol's Solution. J. Lerman and J. H. Means, Boston.—p. 745.
*Head Murmurs. L. P. Hamburger, Baltimore.—p. 756.
*Obesity, Constitutional or Endocrine? S. Silver, New York, and J. Bauer, Vienna, Austria.—p. 769.
Metabolism of Galactose: IX: Influence of Hepatic Dysfunction on Tolerance. A. W. Rowe and Mary McManus, Boston.—p. 777.
*Specific Therapy of Pneumococcus Type I and Type II Pneumonia. H. S. Baldwin, New York.—p. 788.
*Maintenance Dose of Potent Material in Pernicious Anemia. R. T. Beebe and G. E. Lewis, Boston.—p. 796.
I. Anemia of Dogs Produced by Feeding of Whole Onions and of Onion Fractions. O. M. Gruhzit, Detroit.—p. 812.
II. Anemia in Dogs Produced by Feeding Disulphide Compounds. O. M. Gruhzit, Detroit.—p. 815.
Effects of Overdoses of Germanium Dioxide on Blood and Tissues of Rabbits. W. C. Hueper, Philadelphia.—p. 820.
Studies on "Acid Deficit" in Pernicious Anemia, with Report of Case Showing Return of Free Acid. J. E. Connery and N. Jolliffe, New York.—p. 830.
*Rôle of Cardiac Ischemia in Producing R-T Deviations in Electrocardiogram. L. N. Katz, Chicago, and A. W. Wallace, Cleveland.—p. 836.
*Does Carcinoma of Duodenum Ever Arise from Duodenal Ulcers? Cases. J. W. Hinton, New York.—p. 843.
*Nature of Symptoms in Essential Hypertension. D. Davis, Boston.—p. 850.

Iodine in Exophthalmic Goiter.—According to Lerman and Means, the daily inhalation of ethyl iodide in doses of from 2 to 4 Gm. (1 to 2 cc.) or the daily consumption of 0.2 to 0.4 Gm. of potassium iodide produces as much fall in the metabolic rate of exophthalmic goiter patients as adequate doses of compound solution of iodine. The various characteristics of the response produced by ethyl iodide, potassium iodide and compound solution of iodine are similar. The postoperative course following subtotal thyroidectomy for these three groups of patients is essentially the same. It follows that iodine produces its characteristic changes in exophthalmic goiter independently of the type of iodine compound or the route by which it gets into the body. It is suggested that potassium iodide solution is preferable to compound solution of iodine in the treatment of exophthalmic goiter, being equally effective and less offensive to take.

Head Murmurs.—Hamburger presents some examples of cephalic murmurs that originate from intracranial, extracranial or infracranial sources. In the intracranial group the systolic "brain murmurs" of childhood are discussed. The contributing factor sometimes played by anemia in their production is mentioned and evidence is adduced to show that accidental cephalic murmurs might be found more frequently in adults if auscultation of the skull were more often practiced. The bruit of arteriovenous aneurysm of the internal carotid and cavernous sinus is reviewed, largely because of two patients in the series in whom head noises with corresponding murmurs appeared without apparently adequate causes, only to disappear in even a more obscure manner. Arguments are advanced to establish the probability that each of these two murmurs had as its anatomic basis an arteriovenous fistula which underwent spontaneous closure with consequent disappearance of noise and bruit. Reference is made to the head murmurs dependent on intracranial vascular tumors. A murmur resulting from angulation of the vertebral arteries, caused by foraminal herniation of the cerebellum as a consequence of the presence of a cerebellar cyst, is described. The rare murmur of an actual aneurysm of a cerebral artery is illustrated by a case. Murmurs of extracranial origin are exemplified by instances of congenital arteriovenous aneurysms and by one of traumatic origin. Those head murmurs having an infracranial origin are demonstrated by descriptions of bruits propagated from atheromatous carotid arteries, from the struma of exophthalmic goiter and from a cardiac vascular lesion. In conclusion the author emphasizes that the chief object of his paper is to revive interest in cephalic auscultation.

Obesity.—Silver and Bauer outline the insufficiencies of the "balance" theory of obesity and indicate the importance of an understanding of the significance of the peripheral tissues in the usual genesis of obesity. They indicate the congenital and hereditary nature of the obese state and stress its etiologic importance. Endocrine obesity exists, to be sure, but obesity resulting from demonstrable endocrine dysfunction is uncommon (about 3 per cent of the cases studied). Although there may be other causes of obesity, the usual one is to be found in the constitutional makeup of the individual and not in exogenous factors. A case is reported that could easily be taken for an endocrine obesity, as it had developed after a successful operation for exophthalmic goiter. In reality it represents a case of constitutional inheritable obesity.

Pneumococcus Type I and Type II Pneumonia.—Baldwin considers that the use of pneumococcus concentrated immune bodies in pneumococcus type I and type II pneumonia is relatively free from dangerous reactions and serum sickness, and makes it possible to give large amounts of antibody in a short space of time. By using these extracts one often obtains favorable clinical results, and it seems to be definitely established that with them pneumococcus type I and type II bacteremia can be eliminated in many cases and a favorable outcome result. Although the best results are obtained when specific therapy is started early, evidence is given to show that, as long as the pneumonic infection appears, active specific therapy is indicated. The specific therapy of pneumococcus type II pneumonia, which heretofore has been a discouraging procedure, seems to have definite value when concentrates of high unit value are given in large amounts.

Pernicious Anemia.—Beebe and Lewis present clinical observations which show that in the treatment of pernicious anemia with liver or a potent substitute some patients require a much larger maintenance dose of potent material than other patients. Optimal quantities of an effective substance to keep patients in as satisfactory a state of health as possible should be prescribed, rather than amounts that permit them to remain in a state in which untoward events can develop easily.

Cardiac Ischemia.—Katz and Wallace report three cases of deviation of the R-T segment of the electrocardiogram which indicate that acute myocardial ischemia depends not only on coronary occlusion and pericardial effusion but also on the competence of the heart and its dilatation. They also illustrate some of the errors liable to creep into the interpretation of the significance of the so-called coronary R-T deformities.

Carcinoma of Duodenum.—Hinton states that with the marked frequency of duodenal ulcers it is difficult to explain why they do not undergo carcinomatous degeneration. Primary carcinoma of the duodenum is occasionally seen. Clinically, one can disregard the possibility of a duodenal ulcer ever taking on malignant degeneration.

Nature of Symptoms in Essential Hypertension.—Davis offers evidence to show that the symptoms generally occurring in patients with uncomplicated hypertension are those of an associated psychoneurosis. A psychoneurosis is shown to be present in these patients. A comparison of their symptoms with those of a control group of neuropathic patients without hypertension shows agreement in character, frequency, duration, course, and influence by suggestion and sedatives.

American J. Physical Anthropology, Philadelphia

15: 185-354 (Jan.-March) 1931

Foot of South African Native. L. H. Wells, Johannesburg.—p. 185.
On the Primate Thumb. F. M. Ashley-Montagu, London, England.—p. 291.
Dental Caries in Peruvian Skulls. T. D. Stewart.—p. 315.

American Journal of Psychiatry, Baltimore

10: 897-1086 (May) 1931

Affective Psychoses in Children. J. Kasanin, Boston.—p. 897.
Depressive Reactions Related to Parenthood. G. Zilboorg, White Plains, N. Y.—p. 927.
Measurement of Psychotic Age. G. E. Gardner, Waverley, Mass. —p. 963.
Sociopsychiatric Research: Its Implications for Schizophrenia Problem and for Mental Hygiene. H. S. Sullivan, New York.—p. 977.
Sociopathic Behavior in Women: Nine Cases. G. E. Partridge, Baltimore.—p. 993.
Transvestism or Eonism: Two Cases. C. B. Horton and E. K. Clarke, Rochester, N. Y.—p. 1025.
Menopause and Psychosis. C. B. Farrar and Ruth M. Franks, Toronto. —p. 1031.
Hemato-Encephalic Barrier: Diagnostic Value of Bromide Test in Mental Diseases. S. Katzenelbogen and H. Goldsmith, Baltimore.—p. 1045.

American Journal of Tropical Medicine, Baltimore

11: 171-241 (May) 1931

On Transmission of Dengue in Sumatra. E. P. Snijders, E. J. Dinger and W. A. P. Schüffner, Amsterdam.—p. 171.
Possible Transfer of Dengue Virus from Infected to Normal Mosquitoes During Copulation. J. S. Simmons, J. H. St. John, R. L. Holt and F. H. K. Reynolds, Manila.—p. 199.
Determination of Quinine in Blood as Guide to Treatment of Malaria. E. B. Vedder and J. M. Masen, Washington, D. C.—p. 217.
Incidence and Significance of Infestation with Endameba Histolytica in New Orleans and American Tropics. E. C. Faust, New Orleans.—p. 231.

Annals of Medical History, New York

3: 253-362 (May) 1931

Pneumatic Institution of Thomas Beddoes at Clifton, 1798. A. H. Miller, Providence, R. I.—p. 253.
History of Cinchona and Its Therapeutics. H. Rolleston, Cambridge, England.—p. 261.
Edwin Smith Surgical Papyrus and Diagnosis and Treatment of Injuries to Skull and Spine 5,000 Years Ago. C. A. Elsberg, New York.—p. 271.
Ch. Alphonse Laveran, 1845-1922: Life and Works, Read on Fiftieth Anniversary of Malaria Parasite. J. Franchini, Modena, Italy.—p. 280.
Fap and Panada. T. G. H. Drake, Toronto, Canada.—p. 289.
Frontier Physician: John Francis Dehog. C. I. Reed, Chicago.—p. 296.
Physician Physicists. E. Podolsky, Brooklyn.—p. 300.
Notes on English Medicine (Henry VIII-George IV). J. R. Clemens, Webster Grove, Mo.—p. 308.
Hindu Medicine and Its Antiquity. P. J. Sarma, Chicago.—p. 318.

Archives of Internal Medicine, Chicago

47: 675-828 (May) 1931

*Nature of Symptoms Associated with Essential Hypertension. D. Ayman and J. H. Pratt, Boston.—p. 675.
*Gain in Body Weight Associated with Remissions in Pernicious Anemia. J. M. Vaughan, London, England.—p. 688.
*Average Daily Elimination of Urobilinogen in Health and in Disease, with Especial Reference to Pernicious Anemia: Standardization of Method Based on Mesobilirubinogen. C. J. Watson, Minneapolis. —p. 698.
*Central Vasomotor Irritability: Contribution to Problem of Essential Hypertension. W. Raab, Vienna, Austria.—p. 727.
*Serum and Plasma Bilirubin: Comparative, Quantitative Study of One Hundred Cases. M. Jacobi, R. Finkelstein and R. Kurlen, Brooklyn.—p. 759.
*Feces of Patients with Chronic Arthritis. R. T. Monroe and F. C. Hall, Boston.—p. 764.
*Treatment of Pernicious Anemia with Desiccated Hog's Stomach. I. Snapper and J. D. G. du Preez, Amsterdam, Holland.—p. 771.
*Carbohydrate Metabolism in Hypertension. M. Wishnofsky and C. S. Byron, Brooklyn.—p. 790.
Progressive Thrombosis of Pulmonary Artery. C. H. Boswell and H. D. Palmer, Rockford, Ill.—p. 799.
Dynamics of Circulation in Coarctation (Stenosis of Isthmus) of Aorta of Adult Type: Relation to Essential Hypertension. H. L. Blumgart, J. S. Lawrence and A. C. Ernstene, Boston.—p. 806.

Essential Hypertension.—To support the view that the early symptoms associated with essential hypertension are of psychic origin, Ayman and Pratt present a comparative study of the clinical observations of 100 persons with essential hypertension and fifty persons with psychoneurosis. They noted that the early symptoms associated with essential hypertension could not be differentiated from those of the psychoneuroses, either by their incidence or by their general and individual characteristics; that in both groups of patients no abnormality on physical or laboratory examinations could be found adequate to explain the symptoms, and, finally, that in both groups of patients a significant degree of maladjustment to emotional difficulties was found to explain the development of symptoms at the time they appeared. There is available, however, some added evidence that the early symptoms associated with essential hypertension are due not to organic changes, but to the emotional maladaptation of the patient. This evidence resides in the results of treatment. If the early symptoms associated with essential hypertension are of psychoneurotic nature, they should respond to three forms of therapy usually effective for the symptoms of psychoneurotic patients: (1) removal of environmental difficulties or adjustment to them, (2) sedatives and (3) suggestion. This was found to hold true for the authors' patients.

Pernicious Anemia.—Vaughan made observations on the relation of gain in weight to caloric intake, fluid balance, basal metabolism and improvement in the red blood cell count of twelve patients with pernicious anemia. Eleven patients showed an initial gain in weight irrespective of diet at the height of the reticulocyte rise, associated with retention of fluid and the appearance of gross edema. This initial gain in weight was followed by increased excretion of urine, disappearance or diminution of edema and loss of weight. A body weight exceeding that at the onset of treatment, with one exception, was found only in the patients receiving an ample diet. The improvement in the red cell count was associated with a return of the basal metabolic rate to normal or subnormal levels. The initial gain in weight associated with a remission in pernicious anemia would appear to be dependent on the retention of fluids, while increased caloric intake is, at least in part, responsible for the more prolonged gain in weight.

Elimination of Urobilinogen.—Watson describes a modification of Terwen's method for the estimation of urobilinogen in urine and feces, which he believes to be simpler and more efficient than the original procedure. Standardization of the color standard is based on crystalline mesobilirubinogen (Fischer). The results of a series of cases studied with this method are reported and indicate that valuable information may be obtained by its use in the clinical study of jaundice and of the anemias. Persistent urobilinuria after the reticulocyte crisis in cases of pernicious anemia in which liver therapy is used is accompanied by a slower rate of increase of hemoglobin and, to a less marked degree, of erythrocytes.

Central Vasomotor Irritability.—Raab presents experimental evidence that the symptoms of "essential" (not nephritic) hypertension are caused by the local need of oxygen and the accumulation of lactic acid within the vasomotor centers of the brain stem as a consequence of local circulatory disturbances (spasms, sclerosis). The actual level of the blood pressure in hypertension would accordingly be composed of the sum of the stimulus through lactic acid plus the pathologically increased responses to the stimulus of the normal carbon dioxide tension of the blood and of different kinds of sensory and emotional stimuli.

Serum and Plasma Bilirubin.—Jacobi and his associates report the results of simultaneous quantitative determinations of bilirubin by the Thannhauser and Andersen modification of the van den Bergh technic in 100 consecutive and unselected cases and analyze the results as to the degree of agreement or disagreement. The readings are shown to correspond in a high degree and they indicate that plasma instead of serum may be used with equal accuracy in determinations of bilirubin.

Feces in Chronic Arthritis.—Monroe and Hall analyzed 142 stools from 40 patients with chronic arthritis and compared the results with those obtained on examination of 97 stools from 71 patients with various other diseases. No definite pathologic condition was found, except for the presence of starch in the stools from the arthritic group of patients. Difficulty in the utilization of starch, while occasionally found in a variety of conditions, is prone to occur in patients with chronic arthritis and adds further evidence that diets low in starch are of use in this disease.

Treatment of Pernicious Anemia with Desiccated Hog's Stomach.—Snapper and du Preez obtained good results in the treatment of thirty persons with pernicious anemia by means of desiccated hog's stomach. They emphasize the importance of the fact that patients refractory to treatment with liver, especially with liver extracts, are not rare; besides, hog's stomach is a cheap article and, if equally active as a blood maturing agent, will supersede the more expensive liver prepa-

rations and so bring a good and effective treatment within the reach of the general public.

Metabolism in Hypertension.—Wishnofsky and Byron performed a dextrose tolerance test on ten patients with hypertension. The blood sugar and the respiratory quotient curves were studied simultaneously. In six of the ten cases the blood sugar during fasting was higher than normal. It was shown that all patients with hypertension have high blood sugar curves. The respiratory quotient curves were normal in nine of the ten cases. This is adequate proof that there is no diminution in the secretion of insulin in hypertension and that these patients are neither potentially nor mildly diabetic. It disproves the theory that the disturbance in carbohydrate metabolism in hypertension is caused by sclerosis of the blood vessels of the pancreas. In the case in which the respiratory quotient curve was lower than normal, diabetes mellitus, independent of the hypertension, could be considered to exist.

Arch. of Physical Therapy, X-Ray, Radium, Chicago

12: 261-317 (May) 1931

Sunlight, Nutrition and Metabolism: II. Sun-Deficiency Diseases in Relation to Climate, Industry, Distribution of Population, Custom and Habit. V. E. Levine, Omaha.—p. 261.
Biologic Sources of Radioactivity. R. A. Watters, Reno, Nev.—p. 272.
Experiment in Combining of Occupational Therapy and Physical Therapy Under Single Management. C. O. Molander, Chicago.—p. 279.
Exercise in Relation to Heart Disease. D. P. Barr, St. Louis.—p. 287.
Colonic Therapy: Method of Special Drainage. J. W. Wiltsie, Binghamton, N. Y.—p. 292.

Archives of Surgery, Chicago

22: 875-1056 (June) 1931

*Pneumatic Rupture of Intestinal Canal: Experimental Data Showing Mechanism of Perforation and Pressure Required. C. A. V. Burt, Brooklyn.—p. 875.
*Primary Myelogenous Sarcoma Complicating Cystic Disease of Humerus: Case. P. H. Harmon and H. McKenna, Chicago.—p. 903.
Production of Hyperplasia of Thyroid Gland by Chemical Means, with Especial Reference to Purine Bases and Their Derivatives. W. H. Cole, N. A. Womack and W. H. Ellett, St. Louis.—p. 926.
*Functional Disturbances Caused by Inconstant Bones and Sesamoids of Foot. M. S. Burman and P. W. Lapidus, New York.—p. 936.
*Postoperative Pulmonary Atelectasis: Observations on Importance of Different Types of Bronchial Secretion and Anesthesia. A. L. Brown, San Francisco.—p. 976.
*Peritonitis: Experimental Study of Healing in Peritoneum and Therapeutic Effect of Amniotic Fluid Concentrate. H. M. Trusler, Indianapolis.—p. 982.
*Gaseous Pericholecystitis with Cholecystitis and Cholelithiasis. C. F. Hegner, Denver.—p. 993.
*Primary, Isolated Lymphogranulomatosis of Stomach. H. A. Singer, Chicago.—p. 1001.
Etiology and Pathology of Cysts of Pancreas. H. R. Mahorner and H. Mattson, Rochester, Minn.—p. 1018.
*Ethylene Anesthesia: Analysis of Rebreathed Mixtures. F. P. Parker and Rosalie McDonald, Atlanta, Ga.—p. 1034.
*Effect of Spinal Anesthesia on Arterial Tone. J. C. Burch and T. R. Harrison, Nashville, Tenn.—p. 1040.
Effect of Administration of Fluid on Fall in Blood Pressure Caused by Spinal Anesthesia. J. C. Burch and T. R. Harrison, Nashville, Tenn. —p. 1045.
Forty-Fourth Report of Progress in Orthopedic Surgery. P. D. Wilson, L. T. Brown, M. N. Smith-Petersen, J. G. Kuhns and K. F. Cave, Boston; R. K. Ghormley, Rochester, Minn.; M. S. Danforth, Providence, R. I.; G. Perkins, London, England; A. van Dessel, Louvain, Belgium, and C. H. Bucholz, Halle, Germany.—p. 1047.

Pneumatic Rupture of Intestinal Canal.—Burt calls attention to the fact that compressed air is used extensively in industrial arts and that it is important to educate the employees concerning its deadly, penetrative powers, especially since almost all injuries of the intestine produced by it are caused by practical jokers. Clinically, the sigmoid is the viscus most frequently ruptured. Experimentally, the rectum supports the greatest pressure, and the sigmoid, ileum, esophagus, jejunum, transverse colon, cecum and stomach decrease in strength in the order in which they are mentioned. The outer two coats of the colon generally rupture along the longitudinal bands; this is followed by marked herniation and subsequent perforation of the mucosa on the antimesenteric surface. In the remainder of cases the mucosa perforates on the mesenteric surface of the intestine. In the small intestine, in somewhat more than 50 per cent of the cases, all the layers perforated simultaneously on the antimesenteric surface, with slight laceration of the outer two coats and little herniation of the mucosa. In the rest of the specimens, mesenteric ruptures occurred. A higher pressure is required to rupture portions of the alimentary tract in children than in adults. The average pressure required experimentally to perforate the various parts of the intestinal canal both within and without the abdomen is approximately 4.07 pounds per square inch. Less pressure is required to rupture the intestine when the air is introduced more rapidly. The general mortality in pneumatic rupture of the intestine is 56.81 per cent, the operative mortality, 44.82 per cent and the nonoperative mortality, 80 per cent. Early release of intra-abdominal pressure and laparotomy for proper surgical disposition of the intestinal injuries offer practically the only hope for recovery of the patient.

Sarcoma Complicating Cystic Disease of Humerus.—Harmon and McKenna have recently studied the available literature on primary tumors of the bone in connection with a confusing tumor of the humerus, which clearly originated as a complication of preexisting cystic disease of the same locality. This tumor had microscopic characters in common with the group of myelomas, while a disseminated scanty fibrous, hyaline and osteoid intercellular substance and certain of its gross characteristics allied it to the osteogenic sarcomas. On the positive evidence of bony periosteal lipping and the presence of a significant although small amount of stroma that could have been produced by potential osteoblasts, the diagnosis of an osteolytic myelogenous sarcoma was made. The age of the patient (65 years) and the location of the distal metaphysis of the humerus are rare conditions associated with this type of neoplasm. The majority of microscopic fields of sections of this tumor demonstrate a picture not inconsistent with myeloma, thus illustrating the deceptiveness of an incomplete histologic study of a malignant tumor of the bone. The authors consider their case as an instance of a malignant neoplasm complicating cystic disease of the bone.

Inconstant Bones and Sesamoids of Foot.—Burman and Lapidus have been impressed, both from a study of the literature and from their experience in a foot clinic, with the frequency of these bones and with the uncommonness of functional disturbances associated with them. Many of these ossicles, from their unprotected position, are exposed to trauma. Most of them are liable to any disease process that may affect any other bone; also, they may disturb the statics and dynamics of the foot. In their series—an analysis of 1,000 roentgenograms of the foot, with a study of 336 available histories of the 596 patients in the series—the authors emphasize that the functional changes due to the inconstant bones of the foot and the sesamoids are not many but that they become important in compensation work, especially in view of the fact that about 75 per cent of feet present such anomalies. The inconstant bones seldom disturb the statics of the foot.

Postoperative Pulmonary Atelectasis.—Brown stresses the importance of the bronchial secretions in producing postoperative atelectasis and in determining the specific type of atelectasis that ensues. He has noted both experimentally and clinically that thick, tenacious sputum plugs the larger bronchi, whereas thinner sputum tends to greater dispersion and a blocking of the finer bronchi and bronchioles, thereby producing a scattered lobuar atelectasis. At first thought, one would imagine that postoperative pulmonary atelectasis would occur more frequently following inhalation anesthesia than following spinal anesthesia. But on closer consideration, several reasons are noted why spinal anesthesia might predispose to this complication. First, spinal anesthesia definitely inhibits the depth and force of respiratory movements, not only during the operation itself but for a considerable period thereafter. It is these respiratory movements (both intrinsic and extrinsic) that tend to rid the tracheobronchial tree of foreign matter or secretions. Second, the normal viscosity of the secretions of the tracheobronchial tree appears to be increased; i. e., the material is more tenacious following spinal anesthesia. Third, following operation under spinal anesthesia the patient tends to remain relatively quiet for a number of hours. There is, then, a more tenacious sputum and decreased or impaired factors that might tend to free the tracheobronchial tree from this material. The increased possibility for this material to obstruct or plug a bronchus and the subsequent development of atelectasis appear reasonable.

The author is under the impression that spinal anesthesia predisposes to postoperative pulmonary atelectasis.

Peritonitis.—Experimental studies made by Trusler indicate that amniotic fluid concentrate when injected into the traumatized peritoneum produces a reaction stimulating the normal processes of repair and thus minimizing postoperative adhesions. In the presence of contamination, this reaction inhibits the development of fatal peritonitis. But there is no evidence that it can exert a beneficial action when a far advanced peritonitis is encountered at operation. These observations indicate a therapeutic value that has already been substantiated to a limited extent by clinical trial.

Gaseous Pericholecystitis.—Hegner states that, although gas bacillus infection of the liver and biliary tract has been reported many times, in a perusal of the available literature he did not find a case in which gas formation around the gallbladder was noted during life. He reports the case of a man, aged 62, in whom gas in increasing volume was demonstrated both clinically and roentgenologically in relation to the gallbladder. The gas present at the time of operation was proved by culture to be due to an unusual gas bacillus resembling *Bacillus welchii*.

Lymphogranulomatosis of Stomach.—Singer reports a case of primary, isolated lymphogranulomatosis of the stomach, the first to be reported in this country. The case is unique in that a complete history and a painstaking gross and microscopic examination at necropsy failed to disclose any previous or associated lesion elsewhere in the body. The clinical diagnosis of isolated lymphogranulomatosis of the stomach is hardly possible in the present state of knowledge. The systemic and hematologic manifestations are generally absent when the lesion is still in the operable stage. At operation the presence of a soft, flat, infiltrating tumor strictly limited to the distal portion of the stomach, associated with a disproportionate number of large, succulent, isolated, adenoid-like glands, should suggest the possibility of a lymphogranulomatosis. The final diagnosis is a microscopic one. In any case of inoperable tumor of the stomach in which the possibility of Hodgkin disease is to be considered, biopsy should not be omitted. Even when a careful exploration fails to demonstrate evidence of granulomatous tissue other than that extirpated, a guarded prognosis should be made. Gross lesions in inaccessible regions and microscopic involvement of the structures examined at the operating table may coexist without the possibility of detection. When the extent of involvement precludes resection, the patient should be given the benefit of roentgen therapy.

Ethylene Anesthesia.—Parker and McDonald submit a preliminary report on a small series of cases in order to call attention to the possibility of inducing anesthesia with ethylene and maintaining surgical relaxation without giving additional anesthetic agents after the introduction of a filter that removes carbon dioxide from the expired gases. Such a method is apparently without danger and brings about a large reduction in the cost of the anesthetic agents.

Effect of Spinal Anesthesia on Arterial Tone.—Burch and Harrison believe that their studies may have a significance beyond the light they throw on the physiology of spinal anesthesia. Clinically, one observes two different kinds of traumatic shock which are confusing because they so often occur simultaneously. The more important and more serious of these is the so-called secondary shock, which occurs some minutes or some hours after injury. Local loss of blood plasma or of whole blood accounts in large measure for the phenomena observed in this type of shock, which is characterized by diminished blood volume, an early fall in cardiac output, a relatively late fall in mean arterial pressure and, presumably at least, by an initial and compensatory increase in vasomotor tone. The primary physiologic disturbance in this condition seems to be diminished blood volume. Primary traumatic shock or collapse is quite different. It comes on immediately after injury and is presumably of reflex origin. The drop in blood pressure occurring immediately after a gunshot wound and that following trauma to the central nervous system presumably represent types of primary shock. The decrease in blood pressure in subjects under spinal anesthesia appears to belong to this group. If so, primary shock in characterized by an initial decrease in vasomotor tone with a early drop in blood pressure and a relatively late decrease in cardiac output, the blood volume being unaffected. The authors suggest that the terms neurogenic and hematogenic be substituted for primary and secondary shock, respectively.

Arkansas Medical Society Journal, Little Rock

27: 245-260 (May) 1931

Blood Transfusion and Lindeman Method as Adapted to Infants and Children, with Brief Summary of Sixty-One Cases. W. D. Mims, Memphis, Tenn.—p. 245.

Delaware State Medical Journal, Wilmington

3: 83-100 (May) 1931

Migratory Pneumonia: Case. H. G. Bradley, Wilmington.—p. 83.
White Blood Picture in Pneumonia. L. B. Flinn, Wilmington.—p. 85.
Rumination in Infancy. Margaret I. Handy, Wilmington.—p. 87.
Modern Aspects of Infant Feeding. J. P. Wales, Wilmington.—p. 88.

Florida Medical Association Journal, Jacksonville

17: 509-558 (May) 1931

Medical Problems. J. C. Davis, Quincy.—p. 519.

Georgia Medical Association Journal, Atlanta

20: 163-200 (May) 1931

Pushing Back the Frontiers. G. Y. Moore, Cuthbert.—p. 163.
Duty and Necessity for Child Welfare Work. G. Y. Moore, Cuthbert.—p. 168.
Pulmonary Spirochetosis. H. L. Levington, Savannah.—p. 170.
Rabies. J. C. Norris, Decatur.—p. 174.
Presentation of Portrait of Dr. Edward C. Davis to Emory University School of Medicine by Emory Unit. F. K. Boland, Atlanta.—p. 178.
Acceptance of Portrait of Dr. E. C. Davis for Emory University School of Medicine. R. H. Oppenheimer, Emory University.—p. 180.
Typhoid Fever with Intestinal Perforation: Case Complicated by Meckel's Diverticulum. B. C. Teasley, Hartwell, and G. H. Teasley, Atlanta.—p. 181.

Journal of Lab. & Clinical Medicine, St. Louis

16: 743-842 (May) 1931

Clinical Laboratory as Aid to Surgery. A. S. Warthin, Ann Arbor, Mich.—p. 743.
Chemical Analysis of Blood in General and Urologic Surgery. V. C. Myers, Cleveland.—p. 751.
Blood Chemistry and Gastro-Intestinal Tract. R. L. Haden, Cleveland.—p. 760.
Functional Tests in Surgical Diagnosis and Treatment of Diseases of Liver and Bile Ducts. C. H. Greene, A. M. Snell and W. Walters, Rochester, Minn.—p. 765.
Surgery in Presence of Diabetes. H. J. John, Cleveland.—p. 775.
Laboratory Aids in Surgery of Bones and Joints. C. F. Geschickter, Baltimore.—p. 795.
Alleged Toxin of Burned Skin. F. P. Underhill and R. Kapsinow, New Haven, Conn.—p. 823.
Simple Method of Making Microphotographs. L. O. Dutton, Memphis, Tenn.—p. 831.
Simple Apparatus for Controlling Temperature of Fluid During Injection. M. A. Perlstein, Chicago.—p. 837.

Journal of Nervous & Mental Disease, New York

73: 577-696 (June) 1931

*Syringomyelia with Choked Disk. B. J. Alpers and B. I. Comroe, Philadelphia.—p. 577.
*Black Dermographism: New Method for Mass Investigation in Industry. P. Emdin, Rostov, U. S. S. R.—p. 587.
*Treatment of Cerebrospinal Syphilis with Malaria: Twenty-Six Cases. M. Neustaedter, New York.—p. 591
Psychology of Compulsory Disease. W. Stekel, Vienna, Austria.—p. 600.
Report of First Year's Work in Mental Hygiene in Student Health Service of University of Chicago. J. Favill and Rose D. Senior, Chicago.—p. 627.

Syringomyelia with Choked Disk.—Alpers and Comroe describe a case of syringomyelia complicated by high choked disk. The cause of the choked disk was found to be an internal hydrocephalus secondary to a closure of the foramina in the roof of the fourth ventricle.

Black Dermographism.—According to Emdin, black dermographism presents a simple and easy method for extensive investigations on occupational noxae. The nature of black dermographism is a purely physical, not a chemical, one. The origin of black dermographism is exogenous. One cannot connect it with any diseases. Air, as a medium, constantly enveloping the skin, must become the object of careful investigations in

industry by means of application of black dermographism. The application of the method requires a supply of metal sticks, simple manipulations like those for the calling forth of dermographism, simple tests for the determination of the grade of precipitation on the skin, and systematic observations.

Treatment of Cerebrospinal Syphilis.—Neustaedter reports his results with malaria therapy in twenty-six cases of cerebrospinal syphilis. After the conclusion of the febrile paroxysms, antisyphilitic medication was continued. Three of the patients died within a year after inoculation, or about 11.5 per cent. One improved with complete remission six months after treatment but relapsed after a year and died five years after inoculation. Eighteen were improved and remain in good condition, about 69.2 per cent. Six were unimproved, about 23 per cent. These results show that in well selected cases malaria therapy is the method of choice.

Journal of Preventive Medicine, Baltimore

5: 173-225 (May) 1931

Use of Eosin and Fluorescein in Sterilization of Water Supplies by Ultraviolet Light. H. Welch and R. G. Perkins, Cleveland.—p. 173.
Streptococci Associated with Epidemic Septic Sore Throat: Their Relationship to Streptococci Associated with Scarlet Fever. M. W. Wheeler, Albany, N. Y.—p. 181.
Spectra and Antirachitic Potencies of Various "Therapeutic" Lamps. E. M. Koch, F. C. Koch, I. S. Falk and H. B. Lemon, Chicago. —p. 187.
Epidemic Meningitis in Indianapolis, 1929-1930. W. W. Lee, Indianapolis.—p. 203.
Diphtheria Immunization in Philadelphia and New York City. W. W. Lee, Indianapolis.—p. 211.
Instance of Lobar Pneumonia Acquired in Laboratory. O. H. Robertson, Chicago.—p. 221.

Eosin and Fluorescein in Ultraviolet Sterilization.—Experiments performed by Welch and Perkins indicate that the sterilizing action of ultraviolet rays on water is materially increased when photocatalysts in proper dilutions are added to the water. The resistant group of organisms, which in previous experiments withstood long periods of exposure, was destroyed by the use of photocatalysts in four seconds. Complete bactericidal action in water supplies can be brought about with eosin or fluorescein, the proper dilutions of these substances presensitizing the bacteria for subsequent exposure to ultraviolet rays. Relatively high concentrations of eosin and fluorescein proved innocuous when injected into depilated guinea-pigs, even when the animals had prolonged exposure to a strong source of ultraviolet rays. The infinitely small quantities of these substances necessary for complete sterilization precludes the possibility that these substances would be deleterious to the quality of the water for drinking purposes.

Streptococci and Septic Sore Throat.—Wheeler describes the epidemics of septic sore throat that occurred in Millbrook, Kingston and Clyde, N. Y., in 1930. In the Millbrook epidemic the streptococcus strains isolated from the throats of patients and from the milk were identical in all their reactions but when first isolated did not possess the cultural characteristics of *Streptococcus epidemicus*. They produced toxins of low potency, which were neutralized by monovalent antistreptococcus serums produced with two different strains of streptococci from typical cases of scarlet fever and with a strain from a case of epidemic septic sore throat. In the Kingston outbreak typical *S. epidemicus* strains identical in all their reactions were isolated from the throats of persons on the dairy farm, from the milk of one cow, from the throats of patients with septic sore throat and also from the throats of scarlet fever patients. The blood serum of the cow through whose milk the organisms were probably disseminated possessed a definite neutralizing activity for the toxins of the streptococci from septic sore throat or scarlet fever patients and from the persons on the farm, as well as for the toxin of the strain from the milk. On the other hand, the serum did not possess a demonstrable neutralizing activity for the toxins of the Millbrook strains, and the antistreptococcus serums that neutralized the toxins of the Millbrook strains did not possess a demonstrable neutralizing activity for the toxins of the Kingston strains. The strains isolated from the throats of patients in Clyde did not have the cultural characteristics of *S. epidemicus* and toxin was not demonstrated in filtrates of broth cultures. Thus these results illustrate that it is impossible by the methods now available to separate the streptococci associated with epidemic septic sore throat and those with scarlet fever into definite groups that bear a specific relation to the particular type of infection induced.

Laryngoscope, St. Louis

41: 299-386 (May) 1931

Clinical Studies in Vestibular and Auditory Tests in Intracranial Surgery. W. P. Eagleton, Newark, N. J.—p. 299.
Comparative Surgical Anatomy of Infant, Child and Young Adult Temporal Bones and Mastoid Processes (Lantern Slides and Specimens). P. S. Stout, Philadelphia.—p. 313.
Secondary Simple Mastoidectomy with Choked Disks and Severe Cerebral Symptoms: Case Report. H. M. Sheer, New York.—p. 322.
Analysis of One Hundred Cases of Deafness. E. M. Freund, Albany, N. Y., and H. Hays, New York.—p. 326.
Sinusitis from Viewpoint of Osteomyelitis. G. B. Trible, Washington, D. C.—p. 332.
Retropharyngeal Abscess Complicating Tonsillectomy with External Approach. S. Seltz, Cincinnati.—p. 341.
Laryngeal Abscess. R. E. Howard, Cincinnati.—p. 344.
Instrument, for Teaching Purposes, to Demonstrate Direction of Endolymph Flow in Semicircular Canals During Rotation Tests. M. V. Miller, Philadelphia.—p. 348.
Local Anesthesia Tonsillectomy. J. B. H. Waring, Cincinnati.—p. 350.
Technic of Tonsillectomy by Eversion. H. H. Lott, Philadelphia. —p. 356.
Improved Tonsil Snare. S. A. Brumm, Philadelphia.—p. 357.
Decompression of Facial Nerve for Mastoid Operation: Case Reports. J. M. Smith, New York.—p. 358.

Maine Medical Journal, Portland

22: 85-114 (May) 1931

Anabolic Nutrition and Health. F. L. Burnett, Boston.—p. 87.
Bone Regeneration, Its Relation to Fractures and Arthritis. R. O. Meisenbach, Portland.—p. 91.

Medical Journal and Record, New York

133: 521-572 (June 3) 1931

Vitamins. W. H. Eddy, New York.—p. 521.
Primary Torsion of Omentum: Case. M. Thorek, Chicago.—p. 526.
Management of Pulmonary Tuberculosis. M. Schwartz, Philadelphia. —p. 529.
Demonstration of Bloodless Method of Stretching Pylorus. M. Einhorn, New York.—p. 531.
Factors in Treatment of "Acute Abdomen." J. F. Scott, Yakima, Wash.—p. 534.
Modern Conception of Deafness. H. Hays, New York.—p. 536.
Shaping the Personality of the Individual. I. S. Wile, New York. —p. 539.
Morbid Fears: Their Mechanism and Treatment. T. A. Williams, Washington, D. C., and Miami Beach, Fla.—p. 543.
Comparative Therapeutic Results. H. J. Cronin, Cambridge, Mass. —p. 545.
Neuropsychiatric Considerations of Myoclonia. A. Gordon, Philadelphia. —p. 549.
Study in Child Analysis. L. P. Clark and Ethel I. Rourke, Stamford, Conn.—p. 551.

Michigan State M. Soc. Journal, Grand Rapids

30: 409-486 (June) 1931

*Surgical Treatment of Gastric and Duodenal Ulcer. E. S. Judd, Rochester, Minn.—p. 409.
Behavior Disorders in Childhood and Their Relation to Pediatrician. L. A. Schwartz, Detroit.—p. 413.
*Physical and Economical Advantages of Gynoplastic Repairs for Old Lacerations, at or Shortly After Childbirth. J. L. Bubis, Cleveland. —p. 418.
*Diagnosis and Treatment of Acute Osteomyelitis in Children. G. C. Penberthy, Detroit.—p. 424.
Behavior Problems of School Children. W. C. Olson, Ann Arbor, Mich.—p. 428.
*Diagnosis of Tuberculosis of Spine. N. Capener, Ann Arbor.—p. 431.
Management of the Surgical Diabetic. D. W. McLean, Detroit. —p. 434.
Air Embolus of Retinal Artery. A. Dean, Grand Rapids.—p. 439.
Deep Suppuration in Pharynx and Neck as it Concerns Laryngologist. S. Iglauer, Cincinnati.—p. 440.
Sarcomatous Tumor of Testis: Case Report. J. Johns, Ionia.—p. 443.
Discussion of History of Sympathetic Surgery. W. A. Bunten, Detroit. —p. 445.
Simple Device for Obtaining Lower Leg Traction. P. D. Amadon, Monroe.—p. 452
Ephraim McDowell and Early American Surgery. K. L. Sicherman. —p. 453.

Surgical Treatment of Gastric and Duodenal Ulcer.—Judd reports his experience at the clinic with conservative surgical treatment for duodenal and gastric ulcer. In many cases he has used the radical procedure of resection of a considerable part of the stomach. In these cases it was felt that there was a special indication for radical resection. The results of resection of the stomach give a higher mortality with no better

ultimate results. Secondary ulcers form in or near the stoma following resection for ulcer in about the same proportion of cases as that in which they form following gastro-enterostomy. If there is any question as to the nature of the gastric lesion, resection should be carried out. Or, if the gastric ulcer is a large perforating lesion, then resection frequently can be carried out with less operating than is required in performing excision and gastro-enterostomy. The results of conservative operations are satisfactory and radical operation should be done only in those cases in which there is some special indication for doing so.

Gynoplastic Repairs.—Bubis summarizes the physical and economical advantages of gynoplastic repairs thus: 1. It is a sound procedure. 2. The patients are saved the possibility of years of invalidism. 3. Their stay in the hospital is not unduly prolonged. 4. They leave the hospital in the best possible physical condition. 5. They are saved the extra trouble and expense incidental to a return visit to the hospital for repair work.

Acute Osteomyelitis in Children.—Penberthy considers osteomyelitis one of the most serious ailments of childhood. It is most often seen among poor city children. The infection is blood borne and usually follows a preexisting pyogenic infection; the process is a thrombo-embolic phenomenon. Trauma may be considered an important etiologic factor. Early diagnosis, after careful consideration of the history and clinical observations, followed by early surgical intervention and good subsequent care, combined with the good sense and cooperation of the family, materially improves the prognosis and shortens the period of morbidity.

Tuberculosis of Spine.—Capener makes a plea for the earlier diagnosis of spinal tuberculosis, especially in young children. In children, restlessness and fatigue may be the only symptoms. In adults the earliest symptoms are severe pain, muscle spasm and limitation of movement, and the earliest change found roentgenologically is a destruction of the intervertebral disk as evidenced by a reduced and irregular joint space. The well known liability of the dorsolumbar junction to both trauma and tuberculosis should emphasize the need for careful lateral roentgen studies of this region. The influence of respiratory movement in aggravating the disease in the dorsal region is noted. Double lesions are not uncommon, particularly in patients with an active pulmonary lesion. The tuberculous lesion requires treatment for a longer period than that necessary for the postoperative fusion of a spine.

Military Surgeon, Washington, D. C.

68: 721-842 (June) 1931

Medical Corps of Army and Scientific Medicine. M. W. Ireland. —p. 721.
Command and Staff Training, 102d Medical Regiment. L. A. Salisbury, W. P. Davenport and J. D. McCarthy.—p. 735.
*Injection Treatment of Internal Hemorrhoids. M. F. Felch.—p. 760.
Service in General Dispensaries of Army. G. C. Beach.—p. 766.
Mosquito Fighters in Panama. J. B. Shropshire.—p. 769.
New Ambulance Airplane for U. S. Army Air Corps. C. L. Beaven. —p. 777.
Pullman Car Litter. E. L. Ruffner.—p. 781.

Injection Treatment of Internal Hemorrhoids.—Felch summarizes thus the advantages of the treatment of internal hemorrhoids by means of the submucous injection of 5 per cent solution of quinine and urea hydrochloride: 1. The method is safe and sane. 2. It does not require hospitalization. 3. There is no loss of time except for four or five office visits. 4. Age, infirmities, heart and kidney diseases, bronchitis, diabetes and other conditions contraindicating an operation are no bar to this injection method of treatment. 5. The treatment can be carried out in the office with a headlight, hypodermic syringe, anoscope, tincture of iodine, applicators and little or no assistance. 6. The treatment is painless and quickly accomplished. 7. The complications with proper technic are practically none, and no scar tissue remains as a monument to the operator. 8. No anesthetic is necessary. 9. The seriousness of the condition (hemorrhage, erosion and pain), when a patient first presents himself, is not a contraindication to the immediate institution of treatment by making a first injection at the most angry looking site. 10. The results are gratifying to the patient and the physician.

Minnesoto Medicine, St. Paul

14: 499-596 (June) 1931

Consideration of Secondary Anemia. W. H. Long, Fargo, N. D. —p. 499
Endometriosis. F. E. Kliman, Duluth.—p. 504.
Office Treatment of Chronic Cervicitis. Susan R. Offutt, Rochester. —p. 507.
Neurologic Aspect of Head Injuries. W. H. Hengstler, St. Paul. —p. 509.
Treatment of Secondary Deformity in Cases of Harelip. G. B. New and F. A. Figi, Rochester.—p. 514.
Cardiac Emergencies. J. M. Lajoie, Minneapolis.—p. 517.
Differential Diagnosis of Endocarditis. H. L. Smith, Rochester.—p. 521.
Unexploited Therapeutic Opportunity in Periodic Health Examinations of Young Adults. N. Johnson, Minneapolis.—p. 526.
Spinal Anesthesia. R. M. Tovell, Rochester.—p. 531.
Observations on Serotherapy in Scarlet Fever. A. Stewart, St. Paul. —p. 537.

New England Journal of Medicine, Boston

204: 1129-1178 (May 28) 1931

*Embolism of Abdominal Aorta. R. L. Mason, Memphis, Tenn., and S. Warren, Boston.—p. 1129.
Some Changing Aspects of Surgery. I. J. Walker, Boston.—p. 1133.
Work and Purposes of Institute for Mental Hygiene. E. D. Bond, Philadelphia.—p. 1138.
Rôle of Ethical Conduct in Successful Medical Career. F. H. Washburn, Holden, Mass.—p. 1144.
Progress in Urology. F. H. Colby, Boston.—p. 1152.

Embolism of Abdominal Aorta.—Mason and Warren review the causes underlying the occurrence of obstructing arterial emboli. They report a case in which an obstructing embolus was removed from the femoral artery with successful reestablishment of circulation until the lodgement of an embolus at the bifurcation of the aorta seven days later. This embolus was removed by aortotomy with successful reestablishment of circulation until death twenty-six hours later from renal insufficiency due to a massive renal infarct.

204: 1179-1234 (June 4) 1931

*Hinton, Kahn and Wassermann Reactions in Diabetes. H. F. Root and Genevieve O. Stuart, Boston.—p. 1179.
Unexplained Fever Without Leukocytosis: Four Cases Proved to be Undulant Fever. W. R. Jordan, Boston.—p. 1181.
*Control of Hiccup with Carbon Dioxide by Simple Rebreathing Method. L. A. Golden, Boston.—p. 1183.
Health Service in Small Community: Its Development in Massachusetts. C. L. Scamman, New York and W. W. Knowlton, Boston. —p. 1184.
Some Arguments Against State Medicine. W. Dameshek, Boston. —p. 1187.
Evolution of Clinical Concept of Rheumatic Fever. A. S. Reinhart, Boston.—p. 1194.
Treatment of Compound Fractures. G. A. Leland, Boston.—p. 1200.
Ureteral Transplantation for Intractable Vesicovaginal Fistula. J. P. Bowler and J. F. Gile, Hanover, N. H.—p. 1205.

Hinton, Kahn and Wassermann Reactions in Diabetes.—Root and Stuart report a comparison of Wassermann, Hinton and Kahn tests carried out simultaneously on 1,078 diabetic blood specimens. Disagreement in the three tests occurred in fifty-nine cases. Variations in the blood sugar, cholesterol of the blood, acidosis and albuminuria could not be shown definitely to produce false postive reactions in any test. The largest number of doubtful tests were obtained with the method of Kahn, and the fewest with the Hinton reaction.

Control of Hiccup.—Golden describes a simple, inexpensive and readily available method that has been quite effective in his experience with hiccup. An ordinary paper bag of medium size and strength, such as is used by shopkeepers and which is always easy to obtain, is placed over the patient's face and held so that it tightly encloses the mouth and nose. The patient is instructed to breathe into the bag. As the available oxygen in the bag is replaced, the exhaled carbon dioxide accumulates, so that in several minutes the saturation of carbon dioxide is enough to produce a therapeutic effect. Six patients were treated by this simple method. In one patient, the hiccups had been continuous for two days and prevented the patient from sleeping and eating and had produced a soreness in the abdomen and chest muscles. Rebreathing by this simple method checked the hiccup in four minutes and the patient was relieved of his symptoms without relapse. The other four cases were of shorter duration. All but one were relieved in from three to six minutes. One had recurrences in several hours, which he relieved at home easily by the same method.

New York State Journal of Medicine, New York

31: 675-736 (June 1) 1931

Management of Diabetes. S. H. Curtis, Troy.—p. 675.
Factors in Incineration of Community Refuse. R. J. Bartley, Bay Shore.—p. 679.
Endemic Purpuric Meningococcus Bacteremia in Early Life, Diagnostic Value of Smears from Purpuric Lesions. S. McLean, New York.—p. 684.
Lobar Pneumonia Complicated by Atelectasis in Child with Complete Situs Inversus. M. Gleich, New York.—p. 684.
Epilepsy: Clinical and Diagnostic Phases. E. M. Josephson, New York, and M. M. Teplitz, Brooklyn.—p. 686.
Hereditary Hemorrhagic Telangiectasia: Two Cases. H. M. Hicks and Elizabeth Knox, New York.—p. 687.
Urology in Children. F. J. Parmenter, Buffalo.—p. 689.
Secondary Anemia Associated with Diaphragmatic Hernia. H. L. Segal, Rochester.—p. 692.
Value of Cancer Clinic to Community. W. L. Mattick, Buffalo.—p. 696.
Anesthesia in Goiter Surgery: Experience with "Avertin." A. S. McQuillan, New York.—p. 698.

Occupational Therapy and Rehabilitation, Baltimore

10: 71-134 (April) 1931

Application of Occupational Therapy on Graduated Scale to Patients in Tuberculosis Sanatorium. H. T. Henderson.—p. 71.
Rôle of Occupational Therapy in Treatment of Tuberculosis, Pulmonary, Chronic, Advanced, Active. M. Newhauser, Alexandria, La.—p. 83.
Occupational Therapy in Tuberculosis Sanatorium. H. B. Powers, Lake Kushaqua, New York.—p. 89.
Occupational Therapy in General Hospital. Anita C. Blair, Chicago.—p. 95.
Occupational Therapy Publicity in Massachusetts. Elsie M. Thurber.—p. 105.
Occupational Therapy in Teaching Hospital. Gertrude Sample, Hines, Ill.—p. 109.
Occupational Therapy. W. R. Dunton, Jr., Catonsville, Md.—p. 113.

Oklahoma State Medical Assn. Journal, Muskogee

24: 177-224 (June) 1931

Some Problems We Should Solve. H. C. Weber, Bartlesville.—p. 177.
Chairman's Address, Eye, Ear, Nose and Throat Section, State Medical Association, 1931. R. N. Smith, Tulsa.—p. 180.
Lack of Appreciation of Neuropsychiatry by Medical Men. B. H. Cooley, Norman.—p. 182.
Acute Appendicitis. H. Reed, Oklahoma City.—p. 183.
Symposium on Gallbladder Disease: Pathology and Diagnosis. J. T. Martin, Oklahoma City.—p. 184.
Common Duct Lesions. D. D. Paulus, Oklahoma City.—p. 185.
Operative Aspects of Gallbladder Disease. A. L. Biesh, Oklahoma City.—p. 188.
Postoperative Complications of Biliary Tract Surgery, Their Prevention and Treatment. J. W. Riley, Oklahoma City.—p. 190.
Disturbances of Right Urinary Tract Simulating Gallbladder Disease. B. A. Hayes, Oklahoma City.—p. 193.

Philippine Islands M. Assn. Journal, Manila

11: 127-176 (April) 1931

Preventive Medicine in Retrospect. P. F. Russell, Manila.—p. 127.
Anticholera Vaccination Used in Suppression of Cholera Epidemic of 1925 at Calamba Sugar Estate. V. Rivera Saya, Santa Cruz, P. I.—p. 145.

Physical Therapeutics, New York

49: 197-240 (May) 1931

Some Physiologic Effects of Radiation on Plant Life. Adelia McCrea, Detroit.—p. 197.
Ultraviolet and Rickets. R. T. Layman, Elizabethtown, Ky.—p. 202.
Ultraviolet Radiation: What, Why and How. G. E. Crosley, Janesville, Wis.—p. 204.
Efficient Procedure in Use of Air Cooled Ultraviolet Radiation and Some Results Following This Formula. C. M. Hanby, Wilmington, Del.—p. 214.

49: 241-288 (June) 1931

Endocervicitis and Erosions: Their Pathology and Treatment. W. E. Ground, Superior, Wis.—p. 241.
Colonic Irrigation. F. H. Morse, Boston.—p. 249.
Constipation. H. W. Sigmond, Crawfordsville, Ind.—p. 257.
Ultraviolet Radiation in Diseases of Ear, Nose and Throat. A. Furniss, London, England.—p. 266.

Public Health Reports, Washington, D. C.

46: 1289-1352 (May 29) 1931

Development of Proposed Morbidity Reporting Area. R. C. Williams.—p. 1289.
Studies on Biochemistry of Sulphur: XI. Substitution of Dithioethylamine (Cystine Amine) for Cystine in Diet of White Rat. M. X. Sullivan, W. C. Hess and W. H. Sebrell.—p. 1294.
Experimental Studies of Natural Purification in Polluted Waters: VI. Rate of Disappearance of Oxygen in Sludge. E. J. Theriault and P. D. McNamee.—p. 1301.

Radiology, St. Louis

16: 841-1076 (June) 1931

Radiology as Career. T. A. Groover, Washington, D. C.—p. 841.
Roentgenologic Significance of Pyloric and Prepyloric Deformities. J. D. Camp, Rochester, Minn.—p. 847.
Theory of Roentgen-Ray Quality Measurement. M. M. Schwarzschild, New York.—p. 856.
Focal Spot Projection and Position of Roentgen-Ray Tube in Radiography. P. M. Andrus and A. Hambleton, London, Ontario, Canada.—p. 869.
*Radiation Therapy in Treatment of Cancer of Mouth and Lips. J. M. Martin, Dallas, Texas.—p. 881.
Apparatus for Measurement of High Constant or Rippled Voltages. L. S. Taylor, Washington, D. C.—p. 893.
Fifth Lumbar Vertebra Roentgenologically Demonstrated. W. W. Belden, New York.—p. 905.
Uroselectan as Medium for Vesiculographic Study. E. G. Mark, Kansas City, Mo.—p. 933.
*Irradiation Therapy in Functional Ovarian Disorders. F. A. Ford, Rochester, Minn.—p. 936.

Cancer of Mouth and Lips.—Martin believes that cancer of the mouth and of the lower lip, in early stages, does not frequently metastasize. For clinical convenience, all cases of cancer of the lower lip are roughly classified under three stages. In the first stage are grouped all cases in which the lesions are confined to the superficial tissues; that is, to the mucocutaneous structures proper. The second stage includes all lesions that have become more extensive, with the induration and ulceration more pronounced and the subcutaneous structures involved without evidence of invasion of the lymph nodes. In the third stage are included all cases in which the lesions are extensive and in which the lymph nodes show unmistakable evidence of metastasis. In 119 cases of cancer of the lower lip treated by roentgen rays, 86 were in the first stage, 22 in the second and 11 in the third stage. In the first and second stages there were 108 patients who did not show evidence of metastases at the time of treatment. Later, four patients developed malignant nodes in the neck and died. The remaining 104 patients (or 96.3 per cent of the patients in the first and second stages) were well after five years. The eleven patients in the third stage had definite lymph node involvement at the time treatment was begun. All the patients in this stage died from cancer. It is the author's experience that early malignant lesions inside the mouth respond remarkably well to small amounts of radium in platinum needles implanted in the tissues. Interstitial radiation inside the mouth is augmented by highly filtered radium packs and roentgen rays applied externally. Mouth hygiene is an important factor in the successful conduct of this class of cases. In incurable cancer of the mouth and lips the patient can often be greatly benefited by radiation therapy, while in some cases life can be prolonged for months.

Functional Ovarian Disorders.—Ford states that, with exposure of the ovaries or hypophysis to approximately 5 to 10 per cent of an erythema dose of roentgen rays, reestablishment of menses was obtained in twenty-six of forty-seven cases of amenorrhea. Menstruation continued regularly in the majority of cases for periods varying from a few months to two years. Seven pregnancies have occurred among six of the twenty-four married patients in the group, all of whom had previously been sterile. Two pregnancies were continuing at the time of the study, two have terminated in miscarriage, and three full term children have been born, two of whom are living and well. Of twenty-nine cases of severe dysmenorrhea, relief from pain following irradiation has been noted in eighteen. Although the duration of relief is extremely variable, by repeated irradiation a satisfactory result has been maintained as long as three and a half years in one case. Evidence has not been found that repetition of treatments at intervals of three months or longer has adversely influenced ovarian function.

South Carolina Medical Assn. Journal, Greenville

27: 121-148 (May) 1931

Alert Medicine. K. M. Lynch, Charleston.—p. 125.
*Present Status of Vaccine and Nonspecific Protein Therapy. J. A. Kolmer, Philadelphia.—p. 129.
Postgraduate Medicine in Europe. F. E. Zemp, Columbia, S. C.—p. 136.
Urology of Infancy and Childhood. M. Weinberg, Sumter.—p. 138.

Vaccine and Nonspecific Protein Therapy.—Kolmer summarizes the present status of vaccine and nonspecific protein therapy thus: There must be something of real merit in the vaccine prophylaxis and treatment of disease for this therapy to

have survived all the abuses committed in its name during the past twenty-five years. The prophylactic effects of vaccines are largely caused by specific antibody production, while the therapeutic effects may be caused by both specific and nonspecific agencies. Methods for the preparation of bacterial vaccines have an important bearing on their therapeutic efficacy and especially in the treatment of disease. Vaccines of living bacteria of reduced or modified virulence are probably most vaccinogenic although of limited application. The soluble or exogenous toxins and products of bacteria rank next in vaccinogenic activity and whenever possible should be incorporated in vaccines. Vaccines sterilized by chemical agents are probably more vaccinogenic than vaccines sterilized by heat. Accurate bacteriologic examinations are of primary importance in vaccine therapy not only from the standpoint of diagnosis but more especially for securing the organisms of primary infection; moreover, they are of importance for the preparation of autogenous vaccines. The results of therapeutic immunization may be nullified at the outset by defective bacteriologic technic resulting in the failure to obtain the organisms of primary infection. Autogenous vaccines are to be preferred for therapeutic immunization because of the existence of immunologically specific strains of some of the pathogenic bacteria and because of the added vaccinogenic activity of fresh vaccines and especially those incorporating the exogenous toxins. The route of administration and dosage of bacterial vaccines have an important bearing on prophylactic and therapeutic immunization. Intracutaneous injections of vaccines have sometimes engendered more antibody production than subcutaneous injections. Vaccines have proved of great value in the prophylaxis of smallpox, diphtheria, typhoid, paratyphoid and rabies. Some success has attended vaccination against scarlet fever, pertussis, cholera, plague, bacillary dysentery, pneumonia, the common cold and meningitis. They do not materially add to the toxemia of acute generalized infections, although they must be used cautiously and in small doses at frequent intervals to avoid overstimulation of immunologic resistance. They are not necessarily contraindicated in acute infections in which their administration may stimulate the immunizing capacities of the skin and other tissues capable of greater immunologic response. Vaccines are of especial value in the treatment of acute localized infections. They have frequently failed in the treatment of chronic infections involving bone but are more successful in the treatment of infections of the soft tissues and especially those produced by staphylococci and streptococci, as chronic furunculosis and asthma due in part or in whole to allergic sensitization to bacterial proteins. Autogenous vaccines are sometimes of value in the treatment of chronic focal infections and especially in the treatment of the secondary lesions following drainage or extirpation of the primary foci. The mechanism of curative activity in nonspecific protein therapy is unknown but is believed to be largely due to the production of fever along with quantitative and qualitative changes in the leukocytes resulting in an increase of the nonspecific bactericidal properties of the blood and phagocytic activities of the leukocytes, endothelium and other tissues. Nonspecific protein therapy had been especially efficacious in the treatment of chronic focal infections, chronic gonococcus disease and neurosyphilis, although the effects are frequently temporary rather than permanent. This therapy also has a field of application in the treatment of some acute infections.

Southern Medical Journal, Birmingham, Ala.

24: 471-568 (June) 1931

Syphilitic Arthritis. E. S. Hatch, New Orleans.—p. 471.
Linitis Plastica. F. O. Coe, Washington, D. C.—p. 477.
A Yeast Pathogenic for Man and Animals (Saccharomycetes Pleomorphus Viridens). J. C. Norris, Atlanta, Ga.—p. 482.
Healing of Tuberculosis, with Especial Reference to Resolution. C. H. Cocke and S. L. Crow, Asheville, N. C.—p 490.
Liver Abscess J. W. Snyder, Miami, Fla.—p. 497.
Types of Bacterial Dysentery in South: Clinical and Bacteriologic Study. D. N. Silverman and R. Feemster, New Orleans.—p. 504.
Chronic Ulcerative Colitis. M. O. Rouse, Dallas, Texas.—p. 507.
Spastic Colon. J. Witherspoon, Nashville, Tenn.—p. 511.
Compression Fractures of Vertebral Bodies. G. A. Traylor, Augusta, Ga.—p. 515.
Ruptured Gastric and Duodenal Ulcers. J. M. Emmett, Clifton Forge, Va.—p. 519.
Correlation and Interpretation of Common Symptoms in Ear, Nose and Throat Diseases. W. G. Harrison, Birmingham, Ala.—p. 525.
Myopia: Cause, Progress and Treatment. M. Wiener, St. Louis.—p. 529.
Vascular and Cerebral Complications of Nephritis in Children. H. L. Dwyer, Kansas City, Mo.—p. 534.
Glaucoma Surgery. J. W. Jervey, Greenville, S. C.—p. 539.
Retroperitoneal Cysts. H. R. Shands, Jackson, Miss.—p. 541.
Some Functional Disorders of Urogenital Origin. H. W. E. Walther, New Orleans.—p. 544.
Chronic Salpingitis. J. W. Turner, Atlanta, Ga.—p. 550.
Dermatitis Exfoliativa Arsenicalis: Cases of Perivenal Extravasation. C. F. Lehmann, San Antonio, Texas.—p. 554.
Public Health Aspect of Syphilis in Negro Race in Certain Southern States. O. C. Wenger, Hot Springs, Ark., and H. C. Ricks, Jackson, Miss.—p. 556.

United States Vet. Bur. M. Bull., Washington, D. C.

7: 533-624 (June) 1931

Study of Diabetes Mellitus in Ex-Service Men. P. B. Matz.—p. 533.
*Nephrosis. R. W. Brace.—p. 550.
Agranulocytic Angina. H. A. Dykes and M. T. Moorehead.—p. 555.
*Acute Exacerbation of Chronic Tuberculosis. C. A. Anderson.—p. 561.
*Symptomatology of Hypothyroidism. C. E. Starns.—p. 564.
Relationship of Hypothyroidism to Dystrophic Changes of Skin. J. Fritz.—p. 568.
Neuropsychiatry in Practice of Medicine and Surgery. P. P. Barker, —p. 571.
Undiagnosticated Syphilis in Psychotic Patients. J. A. Robinson, —p. 583.
Dementia Praecox in Fraternal Twins. C. M. Schirk.—p. 586.
Convulsive Seizures. H. H. Botts.—p. 588.
Influence of Gold Inlay in Advancement of Modern Dentistry. H. G. Fain.—p. 590.

Nephrosis.—Brace states that nephrosis is a degenerative nephropathy and may be recognized as both a clinical and a pathologic entity. The prognosis depends on the underlying cause. It is reasonable to attempt a treatment regimen different from that of true glomerulonephritis. Metabolism tests may well be made routine in clinical studies of renal lesions. In the presence of a renal lesion with edema and albuminuria, with low blood pressure and without evidence of nonprotein nitrogen retention, the diagnosis of nephrosis or nephrotic glomerulonephritis should be made with reservations in the absence of a demonstrable underlying primary disorder.

Acute Exacerbation of Chronic Tuberculosis.—Anderson calls attention to the fact that tuberculosis, like other chronic diseases, is characterized by periods of acute exacerbation. These clinical disturbances follow periods of decreased immunity and resistance. Exacerbations are caused by ulceration of tissue and absorption of toxins, which are carried by the circulation to stimulate the thermogenic center of the central nervous system. Serious complications, such as pulmonary hemorrhage or spontaneous pneumothorax, may occur at such times. The acute exacerbation differs from the acute infectious diseases mainly in the fact that the patient with a similar degree of fever does not look so ill as in the acute infectious fevers, the pulse is of lower tension, and the blood pressure is distinctly lower. Physical examination and roentgen changes indicate an active lesion. To guard against serious complications, particularly pulmonary hemorrhage or spontaneous pneumothorax, complete rest and quiet are of the utmost importance. The general treatment is similar to that of acute infectious diseases.

Symptomatology of Hypothyroidism.—According to Starns, it is plainly evident that the symptoms of myxedema promptly suggest the diagnosis of hypothyroidism but the symptoms in the milder forms of hypothyroidism are less characteristic and may cause great difficulty in the recognition of the disease. It is generally recognized that a reduction in the basal metabolism is the most common single evidence of hypothyroidism, and for this reason when a patient who has a low metabolic rate complains of a tired, worn-out feeling, loss of strength, loss of weight, nervousness, vague pains and similar symptoms that cannot be readily accounted for, the possibility of hypothyroidism should be seriously considered.

West Virginia Medical Journal, Charleston

27: 241-288 (June) 1931

Renal Tuberculosis and General Practice. G. G. Irwin, Charleston.—p. 251.
Clinical Oral Surgery. E. C. Armbrecht, Wheeling.—p. 254.
Dividends of Preventive Medicine. R. H. Curry, Barboursville.—p. 260.
Pulmonary Abscess. G. F. Grisinger, Beckley.—p. 265.
"Avertin": Report of Twenty-Eight Surgical and Nonsurgical Administrations Done at Elkins City Hospital. E. M. Dunstan, Elkins, —p. 266.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Anæsthesia, Manchester

8: 82-128 (April) 1931

Anesthesia in Thyroid Surgery. C. L. Hewer.—p. 82.
Observations on Preoperative Preparation and Postoperative Convalescence of Surgical Patient. J. R. McKenzie.—p. 90.
*Record of One Hundred Cases of High Spinal Anesthesia. B. R. M. Johnson.—p. 104.
Death During Nitrous Oxide Anesthesia for Proposed Extraction of Teeth (Status Thymicolymphaticus). C. W. Davies.—p. 112.

High Spinal Anesthesia.—Johnson states that the indications for high spinal anesthesia are undoubtedly debatable and largely a matter of opinion and experience. The person with chronic bronchitis is surely subjected to grave risk by having the intercostal muscles paralyzed for two hours because this causes diminished air entry to the lungs. The formation of areas of collapsed lung must follow, and thus the dreaded bronchopneumonia is encouraged. An anterior abdominal wall block followed by an anterior splanchnic block when the abdomen is open is less likely to intensify the pulmonary disease. On the other hand, a case of recently healed pulmonary tuberculosis with no moist sounds in the chest would be one most deserving of a high spinal rather than an inhalation anesthetic. Those patients whose cardiovascular system do not warrant a deep general anesthetic, the diabetic patients and those with renal disease, are also surely cases in which high spinal anesthesia is indicated. Another great class of cases which calls for spinal anesthesia is that class in which prolonged surgical manipulations are to be undertaken, or when the surgical procedure is going to give rise to much shock—for undoubtedly the anesthetic solution protects the patient from shock to a marked degree. The muscular relaxation obtained is also remarkable and so cases of large abdominal tumors, when the surgeon is going to require all the relaxation possible, are most suitable for high spinal anesthesia. There are also the few cases—highly toxic patients, whose acute surgical conditions have become chronic and in whom general anesthesia or large doses of procaine hydrochloride would probably be fatal—in which this method of anesthesia can be, and has been more than once in the author's series of cases, a life-saving measure.

British Journal of Children's Diseases, London

28: 89-176 (April-June) 1931

Is the Hemolytic Streptococcus Acceptable Epidemiologically as Etiologic Agent of Scarlet Fever? T. Toyoda, C. Kuroi, J. Moriwaki and Y. Futagi.—p. 89.
Early Nephritis in Scarlatina. E. A. Underwood.—p. 114.
Onset of Acromegaly Before Fifteen Years of Age. F. R. B. Atkinson.—p. 121.
Some Pediatric Eponyms: III. Koplik's Spots. W. R. Bett.—p. 127.
Osteochondrosarcoma Enclosing the Left Kidney and Suprarenal Gland in Girl, Aged Fifteen Years. F. P. Weber.—p. 136.

British Journal of Radiology, London

4: 249-308 (June) 1931

Two Historical Objects in Radioactivity. J. H. Gardiner.—p. 251.
Note on Preparation of Radium Salts for Therapeutic Use. C. E. S. Phillips.—p. 254.
Dosage in Radium Therapy. J. Murdoch.—p. 256.
Organization of Radium and Roentgen-Ray Cancer Service in Australia. A. Burrows.—p. 285.
Some Aspects of Radium Therapy. W. R. Ward.—p. 291.

British Medical Journal, London

1: 1009-1056 (June 13) 1931

Causation of Stone in India. R. McCarrison.—p. 1009.
*Case of Taboparesis Treated by Hyperpyrexia Induced by Hot Baths. C. R. Gibson and R. G. Gordon.—p. 1015.
Indications for Induction of Premature Labor. H. J. D. Smythe.—p. 1018.
Gonococcal Stomatitis. A. D. Fraser and J. Menton.—p. 1020.
Torsion of Ovarian Cyst with Bradycardia. R. F. Matters.—p. 1022.

1: 1057-1100 (June 20) 1931

Some Antenatal Problems. E. J. MacLean.—p. 1057.
Treatment of "Pernicious Anemia of Pregnancy" and "Tropical Anemia," with Especial Reference to Yeast Extract as Curative Agent. Lucy Wills.—p. 1059.
Diagnosis of Uremia. A. A. Osman and H. G. Close.—p. 1064.
Two Cases of Hemorrhagic Paratyphoid Fever. R. M. Williams.—p. 1067.
Contact Glass or Crossed Cylinders for High Astigmatism. J. H. Beaumont.—p. 1068.

1: 1101-1146 (June 27) 1931

Observations on Cerebrospinal Fever Outbreak in Royal Air Force in 1931. H. E. Whittingham, J. M. Kilpatrick and E. W. B. Griffiths.—p. 1101.
Spondylitis Deformans. C. W. Buckley.—p. 1108.
Two Cases of Syphilitic Spondylitis. C. Abernethy.—p. 1112.
Case of Pulmonary Asbestosis. H. E. Seiler and Mary D. Gilmour.—p. 1112.
Routine Radiograms for Investigation of Intestinal Obstruction. E. T. C. Milligan and G. Simon.—p. 1114.
Case of Acute Bronchiolectasis. H. H. Stewart and J. H. Biggart.—p. 1115.

Treatment of Tabetic Form of Dementia Paralytica by Hyperpyrexia.—Gibson and Gordon report a case of the tabetic form of dementia paralytica in which the condition of the patient showed great improvement following treatment by hyperpyrexia induced by hot baths. They state that they do not wish to draw any conclusions from this one case but hope that others who have more clinical material with which to work may be induced to try this treatment and prove or disprove its utility. If it should prove successful, it has much to commend it when compared with other methods of inducing hyperpyrexia.

Edinburgh Medical Journal

38: 341-404 (June) 1931

Localized Congenital Defects of Scalp. D. M. Greig.—p. 341.
Social Psychiatry. D. K. Henderson.—p. 359.

Glasgow Medical Journal

115: 273-340 (June) 1931

*Place of Periarterial Sympathectomy and of Ganglionectomy and Sympathetic Trunk Resection in Treatment of Certain Vascular Diseases and Other Conditions. A. Young.—p. 273.

Periarterial Sympathectomy.—Young states that, despite the mass of clinical and experimental evidence that has accumulated within the last fifteen years in favor of the operation of periarterial sympathectomy as originally described by Leriche or as modified, there has developed recently a tendency among certain surgeons to depreciate the value of the operation and indeed to question the anatomic and physiologic premises on which it is supposed to be based. These surgeons are supported in their attitude by the views of many physiologists and admittedly it is difficult to refute, or to withstand, many of the arguments that are advanced against the operation on physiologic grounds. Regardless of this now common tendency to question the fundamental, anatomic and physiologic bases of the operation and to refute the arguments by which it is supported, it seems that it is difficult to avoid the conclusion that its value has been proved, both clinically and experimentally. The operation has been done in a variety of conditions. Certain results have followed. If these results have been honestly arrived at and reported with care, they cannot be set aside merely because, up to the present, neither anatomists nor physiologists can explain them. Admittedly, even today, knowledge of the sympathetic system, of the parasympathetic, of the whole mechanism regulating and controlling the internal activities and the outward relations of the body is imperfect—is, indeed, in an almost fluid state. One is in fact working on a series of hypotheses, any or most of which may soon have to be discarded. So that one may well justify the operation quite apart from any supposed physiologic justification, if it can be declared worthy in virtue of proved results. And this it undoubtedly can.

Irish Journal of Medical Science, Dublin

65: 193-240 (May) 1931

Spontaneous Perforation of Primary Jejunal Ulcers. F. J. Morrin.—p. 198.
Spirochetal Jaundice. M. H. O'Connor.—p. 214.
Fouchet Test in Toxemias of Pregnancy: Preliminary Investigations. B. Solomons and F. J. Bourke.—p. 222.

Journal of Neurology and Psychopathology, London

11: 289-384 (April) 1931

Angioma Arteriale Racemosum in Acallosal Brain: Clinical and Pathologic Report. R. M. Stewart and W. R. Ashby.—p. 289.
Auditory Imperception, Illustrated by Description of Three Clinical Cases. S. B. Hall and M. B. Hall.—p. 304.
Observations on Vibration Sense with Especial Reference to Postencephalitic Parkinsonism. C. Worster-Drought and T. R. Hill.—p. 348.

Journal of Physiology, London

72: 1-151 (June 6) 1931

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Effects of High Oxygen Pressure on Carbon Dioxide Transport, on Blood and Tissue Acidity and on Oxygen Consumption and Pulmonary Ventilation. J. W. Bean.—p. 27.
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Effects of Posture on Circulating Blood Volume. R. L. Waterfield. —p. 110.
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Potential Changes in Isolated Nervous System of Dytiscus Marginalis. E. D. Adrian.—p. 132.

72: 153-264 (June 26) 1931

Response of Muscle Spindle During Active Contraction of Muscle. B. H. C. Matthews.—p. 153.
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Properties of Peripheral Vascular System and Their Relation to Systemic Output. H. Barcroft.—p. 186.
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Deposition of Dyes in Mammalian Kidney. H. L. Sheehan.—p. 201.
Oxygen Consumption of Tortoise Heart: Its Dependence on Diastolic Volume and on Mechanical Conditions of Systole. G. Stella.—p. 247.

Journal of Tropical Medicine & Hygiene, London

34: 145-160 (June 1) 1931

China's Contribution to Tropical Medicine. E. C. Faust.—p. 145.
Observations on Occurrence of Vibriothrix Zeylanica Castellani in Egypt. M. Peruzzi.—p. 147.
Some Observations on Malaria Survey Carried Out in Jorhat District of Assam. D. Manson.—p. 149.

34: 161-172 (June 15) 1931

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Lancet, London

1: 1275-1330 (June 13) 1931

Place of Medical Societies in Progress of Medicine. R. Crawfurd.—p. 1275.
Maternal Disablement. W. B. Bell.—p. 1279.
Estimation of Basal Metabolic Rate: Formulas Based on Pulse Rate and Pulse Pressure. Annabella M. Gale and C. H. Gale.—p. 1287.
Pathology and Etiology of Brain Abscess. W. Evans.—p. 1289.
*Ether as Cause of Death After Prostate Operations. R. J. Minnitt. —p. 1292.
*Protective Action of Granulation Tissue Against Absorption of Toxins: Experiments with Tetanus Toxin and Cobra Venom. M. White.—p. 1293.

Ether in Prostate Operations.—Minnitt describes biochemical investigations from which he draws the following conclusions: 1. The higher limits of what is called normal blood urea are abnormal. Cases in which it is high will develop a far higher blood urea after anesthesia. This applies to all operations. 2. The cause of the increase is the effect of ether on the renal cells. 3. In any case of enlarged prostate, with a blood urea approaching 40 mg. per hundred cubic centimeters, the operation should be performed in two stages. 4. When there is an abnormal blood urea and any renal damage, gas and oxygen anesthesia only should be used.

Granulation Tissue and Toxin Absorption.—Under ether anesthesia, White made an incised wound about half an inch long in the skin of the gluteal region of rats after the hair had been clipped and the patch cleansed. The muscle fibers were then separated by inserting the blades of sharp pointed scissors until a small cavity was made in the muscle; into this cavity a small plug of absorbent cotton was inserted and the skin wound was sealed with collodion. After a varying period in different animals the wound was reopened and the absorbent cotton plug removed, the greatest care being taken to avoid causing any bleeding. A platinum loopful of the dry powdered toxin was then placed in the wound cavity, a fresh plug of absorbent cotton inserted and the wound sealed as before with collodion. It was found that when the platinum loop was made sufficiently small the quantity of powder lifted was fairly constant and by actual weighing represented about twenty times the minimum lethal dose for the size of rat used. It was found that when the interval between the infliction of the wound and the insertion of the toxin exceeded five days the animals were protected from the action of the toxin. When the interval was four or five days a proportion of the animals (eight out of thirteen) remained well, while the remainder (five out of thirteen) developed spasms localized to the wounded leg and seemed otherwise healthy. The appearance of spasms localized to the neighborhood of a wound has been interpreted clinically as evidence of either a relatively slight infection or the presence of a certain degree of immunity, as in patients treated with antitetanic serum. It seems reasonable to conclude that in a healing wound some process has taken place which, after the fifth day, affords protection from the action of the toxin. On or about the fifth day the process is apparently incomplete in that only a partial protection is afforded. A similar series of experiments was also carried out with cobra venom, which, like tetanus toxin, produces poisonous effects chiefly in virtue of containing a neurotoxin. The venom was in the form of fine particles and the administration of a constant dose was not feasible. The average quantity employed, however, was much in excess of the minimum lethal dose. Twenty-five rats in all were employed, and twenty died within twenty-four hours of inoculation, the interval between the infliction of the wound and the inoculation varying from five to ten days. Five rats remained well, the interval in their case being six or seven days. The wounds of the rats that died did not show characteristic changes compared with the wounds of those that survived. In the case of the cobra venom, therefore, the protective action of granulation tissue was not established.

1: 1331-1382 (June 20) 1931

Neurology of Old Age: Psychologic Aspects. M. Critchley.—p. 1331.
*Acute Rheumatism Following Tonsillitis. W. Sheldon.—p. 1337.
*Acute Rheumatism and Hemolytic Streptococci. W. R. F. Collis. —p. 1341.
Permanent Separation of Epiphysis for Capitellum. P. B. Roth.—p. 1346.
*Zondek-Aschheim Reaction. W. Stewart.—p. 1347.

Acute Rheumatism Following Tonsillitis.—According to Sheldon, relapses of acute rheumatic arthritis or carditis are often preceded by an initial fever—usually demonstrably due to nasopharyngeal infection—at an interval of from one to four weeks beforehand. Occasionally the rheumatic relapse occurs synchronously with the throat infection. The removal of the tonsils does not influence the likelihood of a rheumatic relapse. The use of acetylsalicylic acid as a prophylactic measure against rheumatic relapses after throat infections is mentioned. Further investigation on this point is required. The element of infectiousness in acute rheumatism lies in the preliminary throat infection, and these throat infections may assume epidemic proportions.

Acute Rheumatism and Hemolytic Streptococci.—Collis shows that an epidemic of tonsillitis in a ward occupied by children with rheumatic heart disease was caused by the hemolytic streptococcus. Rheumatic relapses occurred in nine out of eleven children who developed acute streptococcal infection, while similar febrile disorders not associated with the hemolytic streptococcus did not cause a relapse. In addition to the throat cultures, fifteen blood cultures taken in eleven cases during life and four cultures from the heart's blood after death failed to reveal the presence of the hemolytic streptococcus in any case, though at necropsy cultures from the center of the tonsils yielded the organism in three cases, from the spleen in one, and from the lymph nodes draining the pericardium in another. Intracutaneous tests were made with the exotoxin and a soluble "endotoxin" from the hemolytic streptococcus causing the outbreak. Rheumatic subjects were found to be highly sensitive to the endotoxin while they gave fewer positive reactions to the exotoxin than a similar age-group of controls. The association of throat infection with hemolytic streptococci and rheumatic fever is discussed and a possible causal relationship suggested.

Zondek-Aschheim Reaction.—Stewart considers the Zondek-Aschheim reaction a reliable test for pregnancy. The only fallacy in his investigation was in a case of exophthalmic goiter. The mortality in the mice can be overcome by treatment of the urine with ether. Ether in the absence of acetone does not extract the active principle, but if acetone is present the active principle is extracted. The reaction becomes positive at about the twenty-fifth day after conception. It disappears from the urine about thirty hours after parturition.

Annales de l'Institut Pasteur, Paris

46: 483-578 (May) 1931

*Essential Properties of Diphtheria Toxoid. G. Ramon.—p. 483.
Chemotherapy of Malaria. E. Fourneau, J. and Mme. J. Tréfouel, D. Bovet and G. Benoit.—p. 514.
*Antidiphtheria Vaccination by Cutaneous Route. A. Besredka.—p. 542.
Vaccinal Lymph: Contamination with Virus of Foot and Mouth Disease. T. van Heelsbergen.—p. 558.
*Bacteriolysins in Insects. V. Zernoff.—p. 565.
Zinc Content of Liver of Growing Rat. G. Bertrand and Y. Brandt-Beauzemont.—p. 572.
Antirabic Vaccinations at Pasteur Institute in 1930. J. Viala.—p. 574.

Essential Properties of Diphtheria Toxoid.—Ramon reports his experiments on the essential properties of diphtheria toxoid. He states that, contrary to the opinion of a number of authors, the antigen-antibody union is fragile and can be easily broken. Concerning the properties themselves he enumerates innocuousness, marked resistance to heat, stability, irreversibility, intrinsic antigen value that manifests itself by the power of provoking the abundant formation of antitoxin in the human or animal organism, and dissociating power. These properties differentiate diphtheria toxoid from all other antigens, make it a new substance and assure it an individual existence justifying the special name that was given to it in 1923.

Antidiphtheria Vaccination.—By rubbing a rabbit's skin with an anodyne cream and even by merely shaving the skin, Besredka created a local and nonspecific immunity against diphtheria toxin. With a cream containing diphtheria toxin he produced in a short time a local specific immunity that was rapidly replaced by a marked and permanent general immunity against diphtheria.

Bacteriolysins in Insects.—Zernoff has performed a series of experiments on bacteriolysis in insects. His conclusions are as follows: 1. The blood of immunized caterpillars of *Galleria mellonella* and *Pyrausta nubilalis* contains bacteriolysins against various micro-organisms. 2. The search for bacteriolysins in *Carausius morosus* gave negative results. 3. The bacteriolysis of micro-organisms in the blood of insects may be proved (*a*) by microscopic examination, (*b*) by inoculation on gelatin and (*c*) by the injection of lysed cultures into mice. 4. Since bacteriolysins are not specific they may be produced by the injection of a foreign albuminoid substance, but then their action is slightly weaker. 5. The quantity of substance injected is of only secondary importance. 6. The action of bacteriolysins may be demonstrated four and one-half hours after immunization but the bacteriolysins disappear in three days, whereas the immunity lasts several days longer. 7. High temperatures (115 C.) do not destroy bacteriolysins in blood diluted with physiologic solution of sodium chloride. 8. Bacteriolysis is retarded in blood heated above 60 C. 9. Chloroform has a similar action on bacteriolysis. 10. Bacteriolysins are not transmissible in vitro. 11. They may be preserved in vitro for a few days.

Bulletins et Mém. de la Soc. Nat. de Chirurgie, Paris

57: 687-732 (May 23) 1931

Roentgenology in Intussusception of Nurslings. P. Moulonguet.—p. 688.
Chronic Pancreatitis: Three Cases. J. Hertz.—p. 689.
Herniary Trauma with Rupture of Loop of Small Intestine: Two Cases. J. Dessaint, Audouin and G. Pouchet.—p. 697.
Metal Plates in Osteosynthesis. P. Philardeau.—p. 702.
*Severe Vascular Disorders and Gangrene of Hand in Case of Cervical Rib: Removal of Rib: Resection of Obliterated Subclavian Artery. Langeron and Desbonnets.—p. 704.
Treatment of Acute Appendicitis. P. Mathieu, P. Huet and Gérard-Marchant.—p. 713.
*Recurrent Dislocation of Shoulder Joint with Broca-Hartmann Lesion: Treatment. P. Moulonguet.—p. 731.

Removal of Cervical Rib.—Langeron and Desbonnets report a case of cervical rib, with severe vascular disorders and gangrene of the hand. The rib was removed; there was also performed a resection of the obliterated subclavian artery. The authors reach the following conclusion: The main cause of disorders in the arterial circulation below a long cervical rib consists of pathologic vasomotor phenomena produced by the arterial compression. To make these disorders disappear, one has to resect the diseased arterial segment. The suppression of the anatomic obstacle, in all instances in which it is possible, is extremely desirable, but it does not seem as indispensable as the resection of the arterial segment.

Recurrent Dislocation of Shoulder Joint.—Moulonguet reports a case of recurrent dislocation of a shoulder joint. He had reduced the dislocated joint two years previously after the patient had sustained a trauma in that region. Subsequently, two other dislocations had occurred which had been of a purely pathologic nature, following false movements. The case, therefore, was an instance of a true recurrent dislocation. On open reduction the author found a typical periosteocapsular separation. The condition was corrected by nailing the floating piece of periosteum and capsule to the anterior surface of the scapula and on a line with the anterior border of the glenoid cavity. The functional result was good. All the movements of the shoulder joint except the ability to place the arm in a perfectly horizontal position were regained.

Gynécologie et Obstétrique, Paris

23: 385-480 (May) 1931

*Mortality in Conservative Low Cesarean Section: Analysis of Twelve Cases. J. Kreis.—p. 385.
*Epinephrine in Treatment of Demelin's Dystocia. P. Rucker.—p. 412.
*Superficial Cancer of Cervix Uteri. A. Babès.—p. 417.
*Diagnosis of Extra-Uterine Pregnancy. G. C. Stavridès.—p. 434.
Hydatidiform Mole and Ovarian Cysts. G. Maroudis.—p. 441.

Mortality in Low Cesarean Section.—Kreis analyzes twelve cases of death after low cesarean section. He states that in general the accidents encountered in these cases will be avoidable in the future. He proposes, in this connection an active medical conduct during the test of labor, which consists in correcting the uterine contractions (spasmodic in the great majority of cases) by injections of an antispasmodic from the onset of labor. Moreover, the membranes should be ruptured at the beginning of labor, while the dilatation is slight, to bring the head into the pelvis and to obtain adaptation of the fetal pole as early as possible. Hence, the test of labor may be limited to ten hours at the maximum after which time one can decide whether the labor will be terminated by an inevitable cesarean section or spontaneously. The interesting feature of this systematic treatment, which the author has already proposed and justified in various articles and which he has designated as "medical labor," consists in giving a plan for the test of labor, in testing the dystocia simultaneously with the dilatation, in order to shorten the labor to its necessary minimum, and to find the obstetric indication in cases of true dystocia. The success of cesarean section, being in a large measure dependent on the resistance of the person operated on to infection, is almost guaranteed by the elimination in this manner of the organic exhaustion caused by an unsuccessful labor, uselessly and arbitrarily prolonged. The most important technical point in cesarean section is the perfect suturing of the muscularis in the inferior segment. The author uses a so-called whip stitch, superimposed on the primary suture, the burying of which must be complete, especially at the lower angle; this is the main, the most solid and the most impervious barrier against infection by the utero-abdominal route. The evolution of the postoperative sequelae depends largely on the duration of the test of labor and on the technic. One can, according to the author's clinical experience, do a lot of good by early treatment with neoarsphenamine in a case of threatening infection. But the constitution of the parturient is the deciding factor and it is not ideal in cases of dystocia. Contracted pelvis or pelvic malformation is not a local condition but the expression of a constitutional insufficiency. This provides another reason for performing cesarean section, which has all the disadvantages of an emergency intervention, during the phase of obstetric labor, because one thus reserves a sufficient resistance for the patient and does not decrease the chances of a successful operation.

Epinephrine in Treatment of Demelin's Dystocia.—Rucker discusses the history of the discovery of the action of epinephrine on the uterus of pregnant women and the development of the practical application of the drug. In the extreme degrees of Demelin's dystocia (annular contractions and contractures with dystocia) epinephrine is the only remedy that permits delivery by the natural route. Moderate degrees of annular contractures occur often and are frequently the unsuspected cause of dystocia. In such cases epinephrine makes the extraction with forceps easy. The use of epinephrine in threatened abortion is logical and deserves repeated trials.

Superficial Cancer of Cervix Uteri.—Babès describes the microscopic changes in two cases of superficial cancer of the cervix. He states that in the cases previously reported a detailed and precise description of the tumors has not been given. The author, however, considers that such a description constitutes the main condition in support of the extremely delicate and controverted diagnosis of superficial cancer. He presents an outline for the description of the microscopic changes in tissues which facilitates the differential diagnosis between cancerous and benign atypical epithelial proliferations; in other words, between superficial cancer and epidermization of an erosion or of a polypus.

Diagnosis of Extra-Uterine Pregnancy.—On the basis of nine personal cases, Stavridès concludes that the clinical diagnosis of extra-uterine pregnancy is frequently difficult. At times, in operating on a patient for some other ailment, one finds accidentally a tubal pregnancy. At present with the Aschheim-Zondek test one could *perhaps* make a more exact diagnosis in doubtful cases. But operative surprises are still being experienced.

Lyon Chirurgical

28: 273-384 (May-June) 1931

*Encephalography in Cerebral Tumors. E. Moniz, A. Pinto and A. Lima.—p. 273.
*Bilateral Calcification of Subdeltoid Connective Tissue at Point of Contact with Focus of Bony Necrosis of Humerus. R. Leriche and E. Brenckmann.—p. 281.
Metaplastic Diseases of Hip: Pathogenic Considerations. R. Tillier and G. Bousser.—p. 286.
*Intercarotid Paraganglioma. Elena Puscariu, N. Hortolomei and D. Lazarescu.—p. 298.
*Traumatic Chronic Arterial Spasm. S. Nowicki.—p. 317.

Cerebral Tumors.—Moniz and his associates report two cases of cerebral tumors. They state that with encephalography one can often localize the tumors. It sometimes indicates also their nature. Three groups of tumors can be demonstrated by the intracarotid injections of a 25 per cent solution of chemically pure sodium iodide. They are the meningoblastomas, the highly vascular tumors and the tumors without any noticeable circulation. The meningoblastomas are, in general, visible in their entirety. The opaque liquid is arrested longer in the circulation of these tumors than in the cerebral tissue, where it passes rapidly. This arrest of the iodized solution in the meningoblastoma allows one to draw the outline of the tumor. In the second group, one notes an exceedingly marked circulation at the level of the tumor but its outline is not visible. In the third group the displacement of arteries allows one to localize the tumors that do not show any circulation. These are the cases of cysts, cholesteatomas, tubercles and some gliomas. The authors describe two cases that belong to the first two groups. They conclude by stating that these two cases demonstrate that with encephalography one can not only determine the localization of the tumors but, in certain cases, also obtain some hitherto unavailable information on their nature and their circulation. Therefore a more correct prognosis may be made.

Bilateral Calcification of Subdeltoid Connective Tissue.—Leriche and Brenckmann demonstrated that, if one inserts small fragments of dead bone under the synovial membrane of the dog, one can observe the formation of osseous and cartilaginous nodules in the adjacent synovial tissue. In man, in two cases of chondromatosis with numerous foreign bodies, they found dead bone in the adjacent epiphysis. This led them to believe that in the calcification of the subdeltoid serous bursa and of the aponeurotic or tendinous tissue in contact with it the same was perhaps true and that the necrosis of bone played a part also in this condition. The authors verified their hypothesis by clinical observation. They conclude that the periarticular calcifications of the shoulder joint (and by extension probably all periarticular ossifications) are only the translation of a process of osseous resorption and the results of a local calcareous mutation.

Intercarotid Paraganglioma.—Puscariu and her associates report a case of intercarotid paraganglioma and review the literature on the subject. It was observed that tumors of the intercarotid gland occur most frequently in persons aged from 30 to 40 years. Cases have been reported, however, in persons ranging in age from 7 to 73 years. Most of these tumors develop on the left side. Some of the writers think that this predilection is caused by the irritation of the blood capillaries, which is produced by the powerful shock transmitted by the corpuscles on the left side by the obliquity of the branches of the carotid on this side. At first the tumors of the carotid gland occupy the retrocarotid or the intercarotid region, but during their evolution they become exteriorized and have a tendency to envelop the artery itself. In certain cases the adjacent lymph nodes are invaded by the growing neoplasm. Because of the slow and generally insidious development of these tumors, persons with them consult a physician late, at the least after four years. One patient waited forty years. In some instances the tumor undergoes malignant transformation and progresses rapidly. The only treatment in these cases is surgical extirpation. The operation is simple if it is done early enough. The technic is the same as that employed in the exposure and ligation of the carotid artery. The kind of anesthesia depends on the circumstances. Local anesthesia is preferable. In conclusion, the authors state that their case is of interest not only from the point of view of treatment, for the tumor was removed easily without the necessity of ligation or resection of the carotids, but especially from the anatomopathologic point of view, because they were able to demonstrate the presence of chromaffin cells in the carotid paraganglioma by their specific reactions. The case is also of interest from the ocular point of view, because the patient presented the Bernard-Horner sympathetic syndrome, which is rarely encountered complete in these tumors.

Traumatic Chronic Arterial Spasm.—Nowicki made a comprehensive study of a case of arterial spasm due to trauma. His observations are as follows: The spasm may become a permanent and irreversible process. Following the circulatory disorders produced by the spasm, gangrene may affect the tissues of the involved extremity. Barthélemy's patient presented sensory disturbances limited to the injured limb. Leriche and other authors mention the intense pain in persons with arterial spasm. In the author's patient the pain persisted for a month after the accident. Later the pain diminished greatly in intensity and finally it was experienced only in the articulations in which a suppurative process was in the course of evolution. Since the arterial spasm in the author's case was permanent, one cannot conclude that there was a causal relation between the spasm and the appearance of the pain. It is possible that the pain was due to direct lesions of the nerve trunks. The clinical symptoms of arterial spasm do not present any characteristics that would enable one to distinguish it from other morbid processes that produce partial or total obliteration of an artery. With regard to the treatment of arterial spasm, Barthélemy demonstrated the proper method by performing periarterial sympathectomy according to the method of Leriche. It is impossible to decide whether this surgical procedure would be efficacious in all cases of arterial spasm. In the author's case the procedure was not followed by any perceptible reaction in the contracted portion of the artery. If sympathectomy proves ineffective and the signs of ischemia progress, one should resect the contracted segment of the artery and unite its ends by suture.

Paris Médical

1: 485-500 (May 23) 1931

*Vitamins and Avitaminosis. H. Simonnet.—p. 485.
*Acetylcholine Hydrobromide in Treatment of Perspiration in Tuberculous Persons. M. Perrin and M. Kuntz.—p. 494.
Biologic Diagnosis of Pregnancy: New Method. A. Brouha.—p. 496.

Vitamins and Avitaminosis.—Simonnet states that the question of vitamins is of real importance, as much because of its bearing on the study of the problem of nutrition as for its therapeutic and hygienic applications. It presents a striking example of the evolution of a problem raised by medical observation. In fact, known for centuries, it has passed into the domain of biology; physiology has analyzed it from various points of view, and it has entered into the preoccupations of the chemist. Thus, studied under all its aspects, the problem has undergone a series of analyses whose cycle is not yet finished. But the knowledge acquired is returning, by an inverse route, toward biology and medicine. One is in the presence of a new and striking example of the intricacy that is rendered by the dependent and thoroughly united various scientific disciplines. Despite the imperfections as well as the obscurities

still present in the study of the vitamins, it may be stated not only that diseases of grave character may be definitely eradicated by the simple measures of preventive medicine but that therapeutics has also gained important achievements.

Acetylcholine Hydrobromide.—Perrin and Kuntz state that from the physiologic point of view the salts of acetylcholine, the hydrochloride as well as the hydrobromide, act as the antagonists of epinephrine. Their action is chiefly vasodilatory and hypotensive, affecting particularly the peripheral arterioles. The authors performed a series of interesting experiments in regard to the influence of the salts of acetylcholine on the profuse perspiration in tuberculous persons. They state that the results obtained were strikingly favorable, especially if one takes into consideration the fact that the weak doses administered neither produced any toxic symptoms nor diminished the other secretions. These salts did not modify the renal secretion. In fact, the volume of urine was sometimes increased after the cessation of the perspiration. One may use the subcutaneous route when the usual route (oral) proves ineffective. Acetylcholine is a remedy that can be recommended in combating such a distressing, debilitating and discouraging symptom as perspiration in tuberculous persons.

Presse Médicale, Paris

39: 729-752 (May 20) 1931

*Rules of Surgical Treatment of Cerebral Abscess of Otic Origin. J. Piquet.—p. 729.
Surgical Tuberculosis: New Observations. E. Sorrel, P. Bufnoir and J. Fumet.—p. 731.
Muscular Contusion in Compound Fractures of Diaphyses. M. Arnaud. —p. 734.
Polyarticular Rheumatism in Adults: Treatment with Organic Salts of Gold. J. Forestier.—p. 735.
Allergin and Tuberculin. J. Albert Weil.—p. 739.

Cerebral Abscess of Otic Origin.—Piquet outlines rules for the treatment of cerebral abscess of otic origin. His principal points of discussion are the time when it is necessary to intervene, the routes of access to the abscess and the method of drainage of the pus. With regard to the time of intervention, he states that nearly all agree that one should operate as soon as the diagnosis is made. The main routes of access to the abscess can be reduced to two: the one in which the intervention is through the bony focus and the one in which it is at a distance from the focus. The author enumerates the advantages and disadvantages of both methods of approach. The question of drainage of a cerebral abscess is a much disputed one. All kinds of drains are unsatisfactory and permit the evacuation of only the central part of the abscess; consequently, the walls of the cavity come together and make secondary cavities that may develop into other abscesses. The author recommends two methods of drainage: One consists in employing gauze moderately pressed together, which penetrates the various recesses of the cavity and produces capillary drainage. The other procedure, which in the author's opinion is the better one, is to explore the cavity with Kocher's forceps. In regard to the postoperative complications of cerebral abscess the author enumerates the causes of death; cerebral compression is the most common one. Surgical intervention usually relieves the compression induced by localized single or multiple abscesses; in a diffuse abscess, surgery is of little value. Septic meningitis is the other cause of death of patients with cerebral abscess, whether they are operated on or not. The diagnosis of cerebral abscess is often a difficult one and in the majority of cases it is made not on the basis of definite signs but on the somewhat indefinite observations. This is why the problem of treatment in these cases is also a complicated one. In practice, one meets two types of cases of cerebral abscess. In the first type the patient presents indefinite signs of a cerebral abscess. If the abscess progresses without elevation of temperature, various disorders of otic origin may simulate it: subarachnoid meningeal edema and certain forms of an infectious cerebral edema of benign evolution. These disorders may be manifested by the syndrome of cerebral compression. If, on the contrary, the indefinite signs of cerebral compression are accompanied by a marked elevation of temperature, one has to consider the possibility of a nonsuppurative diffuse encephalitis. The author describes the operative procedures; he states that the incision of the meninges evacuates generally a minimal quantity of pus mixed with lumps of gangrenous cerebral substance. From the surgical point of view the first evacuation of the abscess is inadequate and does not insure healing in the particularly severe forms. It is imperative to search for and evacuate each new abscess as soon as it forms. In the second type of case the patient presents definite symptoms of cerebral abscess. Regardless of whether the patient has not yet been operated on or has just undergone a mastoid intervention the treatment is the same. The operative indication is absolute and the evacuation of the abscess must be performed without delay. If the reappearance of symptoms of cerebral compression shows that the evacuation of pus is unsatisfactory (insufficient drainage of the cavity or formation of a new abscess), the drainage may be practiced in one of two ways: one may introduce into the meningeal opening a pair of Kocher's forceps or one may insert into the cavity of the abscess loose gauze drains, which should not be changed oftener than every eight days. The author states that one must consider also a third type of case, which is more rarely encountered in general practice. The patient presents grave symptoms; the signs of cerebral abscess lack clearness. They persist and to them is added a clinical picture of meningitis or of venous infection. In conclusion, the author stresses the fact that in these cases a mastoid intervention (mastoidectomy or petromastoid evacuation) is always the operation of choice in locating the abscess and, at times, is the first operative stage in the cases in which the diagnosis is doubtful. The variety of anatomic forms, the diversity of the evolution, and the polymorphism of the clinical aspect of cerebral abscess make its treatment particularly delicate.

Revue Française de Gynécologie et d'Obst., Paris

26: 177-256 (April) 1931

School of Obstetrics in Lyons for the Last Fifty Years. J. Voron. —p. 177.
*Signs of Fetal Maturity: Significance of Centers of Ossification in Knee. H. Eparvier.—p. 185.
Low Scoliosis from Obstetric Point of View. J. Gaucherand.—p. 217.
*Treatment of Hemorrhages of Gastro-Intestinal Tract in the New-Born. E. Banssillon.—p. 232.

Signs of Fetal Maturity.—Eparvier reviews the literature on the subject. He also reports the results of 102 roentgen examinations of the two knees in new-born infants during the first three days of extra-uterine life. His conclusions are as follows: In regard to the centers of ossification in relation to fetal weight: 1. The proportion of the new-born with centers of ossification in the knee is in direct relation to the weight of the fetuses. 2. The tibial centers do not exist in infants weighing less than 2,000 Gm. 3. There is always at least one center of ossification in infants weighing more than 2,800 Gm. 4. If there are only two centers, they are the femoral ones. 5. The four centers are constant in infants weighing more than 3,670 Gm. With regard to the relations between the centers of ossification and the duration of intra-uterine life, the author states that: 1. There is a proportion of 7.84 per cent of infants clinically at term who do not have any centers of ossification. 2. It seems impossible to fix the time of the appearance of the centers, the femoral ones always appearing at the beginning of the ninth month and the tibial ones, as certain authors believe, at the time of birth. In regard to the interrelation of the dimensions of the centers of ossification and other important facts the author states that the diameters of the centers of ossification vary greatly and there is not a constant relationship between them and the weight, height or age of the new-born. Finally, he believes that the existence of the centers of ossification in the knee is a sign of active ossification which has to be added to the rest of the data to be of value in the estimation of fetal maturity. By themselves these phenomena do not allow any definite conclusions in regard to the duration of the actual stay of the fetus in the uterus or to its absolute maturity.

Hemorrhages of Gastro-Intestinal Tract in the New-Born.—Banssillon describes the treatment of gastro-intestinal hemorrhages in the new-born during the first few days after birth. He states that clinically they present two essential manifestations: melena and hematemesis. With the exception of syphilis, in which causal treatment is indicated, the therapy consists of appropriate symptomatic medication and diet. The first thing to do is to abstain from giving the infant milk, regardless of its source, and to maintain a rigorous hydric diet. To any liquid given, one may add some gelatin. Some authors

advise subcutaneous injections of small doses of ergotine. If the infant loses weight rapidly, one should give an injection of from 20 to 30 cc. of physiologic solution of sodium chloride. This treatment is simple and gives results in from 80 to 90 per cent of the cases of uncomplicated melena. If it fails, one should inject subcutaneously from 10 to 20 cc. (maximum dose, which should be divided into two or three parts and given over a period of twenty-four hours) of horse serum. Usually after one day of such treatment marked improvement follows. The last resort in a case of severe hemorrhage in a new-born infant is blood transfusion. The author believes that the blood should be injected into the superior longitudinal sinus, which method is less dangerous than injection into the external jugular. He prefers citrated blood and suggests the dose of 1 cc. for each hundred grams of weight (maximum dose), although transfusions of from 15 to 20 cc. are usually sufficient for new-born infants of average weight. In grave and persistent forms the dose may be increased. In regard to the technic of transfusion, he emphasizes that the main requirement is that there should be strict compatibility of blood and, if possible, one should use maternal blood. The injection should always be given at the posterior angle of the large fontanel. The physician must be sure that the needle has entered the sinus. The results of blood transfusion in the new-born with hemorrhages of the gastro-intestinal tract are usually remarkable. But the transfusion must always be preceded by general medical treatment. As a result of the methods of treatment described the mortality in infants with gastro-intestinal hemorrhages has markedly diminished. When the hemorrhagic phenomena decrease or disappear, one can carefully resume the feedings with small quantities of human milk, preferably maternal.

Revue Neurologique, Paris

1: 413-564 (April) 1931

Sensory Effects of Sympathetic Disturbances: New Experimental Observations. A. Tournay.—p. 413.
*Klippel-Feil Syndrome with Spasmodic Quadriplegia. G. Guillain and P. Mollaret.—p. 436.

Klippel-Feil Syndrome.—Guillain and Mollaret report a rare case in a person presenting the Klippel-Feil syndrome and spasmodic quadriplegia. Their clinical observations demonstrated the coexistence of the two syndromes: the one, of long duration, corresponded to a malformation of the cervical spine; the other, of more recent origin, corresponded to a pure pyramidal quadriplegia, having been produced in two stages by a double ascending spinal hemiplegia. The authors conclude by stating that their case presents a picture that resembles exactly the one described by Mills as being caused by an autonomic medullary pathologic condition.

Revue Médicale de la Suisse Romande, Lausanne

51: 323-386 (May 25) 1931

*B C G in Pediatrics. L. Tixier.—p. 323.
Dry Perforation of Tympanic Membrane: Ear Lavages. A. Barraud.—p. 356.
Antidiphtheritic Vaccinations in 1930. H. Audeoud.—p. 359.
*Bradydactylia with Membranous and Osseous Syndactylia: Case. A. Cramer.—p. 365.

B C G in Pediatrics.—Tixier terminates his long article by submitting to the investigators who believe in the efficacy of B C G a program of scientific experimentation which, if it gives results in favor of B C G, will convince all those who doubt its efficacy that they are wrong. He calls attention to the well established fact that monkeys cannot live in France and that after a few months, rarely a few years, they all succumb to tuberculosis. He states that he is certainly not the first one to think of this line of research and that he would not be displeased to learn that B C G had conquered tuberculosis in monkeys. But there is a form of clinical experimentation that would be still more conclusive. Nearly all Algerians and Moroccans who come to France die of tuberculosis. Not until the time when these persons are vaccinated as soon as they arrive in France and one no longer sees them in hospitals, dying from tuberculosis, will one be justified in giving massive vaccinations to healthy persons.

Bradydactylia with Membranous and Osseous Syndactylia.—Cramer reports a case of bradydactylia with syndactylia of the proximal phalanges of the first two toes of the left foot and a membranous syndactylia of both feet. He states that these malformations in most of the cases are hereditary. It is improbable that they are caused by anomalies of the spermatozoa or ova, or of both of them. Tuberculosis and syphilis also play a part in these malformations. Some authors believe in the mechanical theory; namely, traumatism, insufficiency of amniotic fluid during intra-uterine life and so on.

Clinica Medica Italiana, Milan

62: 311-412 (April) 1931

Nickel and Cobalt Content of Pancreas and Liver of Diabetic Persons and of Dogs Made Experimentally Glycosuric. M. Bergonzini.—p. 311.
Continuous Cardiac Bigeminy. R. Capo.—p. 319.
*Pararrhythmia. M. Calabresi.—p. 331.

Pararrhythmia.—Calabresi discusses the various possibilities that may account for the coexistence of two automatic centers of cardiac rhythm, basing his statements on his personal observations and on the literature of the subject. He considers the theories and the results of experiment and clinical observation, which justify the assumption of "invasion block" and "emersion block" (Kaufmann and Rothberger). He presents the hypotheses advanced in support of the theory of Kaufmann and Rothberger, according to which all the extrasystoles have a homogenetic origin in adjoining centers. He points out the division of the extrasystoles into two classes: one class, independent and identical with the normal systoles, has a homogenetic and automatic origin; the other class appears only if provoked by a preceding stimulus. It is not yet possible to make any final statements in regard to the mechanism that gives rise to these extrasystoles.

Pediatria, Naples

39: 513-568 (May 15) 1931

Action Currents of Heart in Children with Amebiasis. M. Gerbasi.—p. 513.
*Fluorescein-Sodium Test of Meningeal Permeability in Child. P. Gorini.—p. 526.
Suppurations Due to Paratyphoid B. S. Rollo.—p. 536.

Fluorescein-Sodium Test of Meningeal Permeability in Child.—Gorini concludes from his researches on the permeability of the meninges to fluorescein-sodium introduced by the intramuscular route, as follows: The fluorescein-sodium test on the spinal fluid is positive in all cases of meningitis. It is, however, constantly negative in cases of meningism and in all other disorders of the nervous system. The test is negative also in various other diseases considered, with the usual exception of cases of malaria before quinine treatment. No passage of fluorescein-sodium into the spinal fluid was found in healthy children. The test will serve as a means of differential diagnosis as between meningitis and meningism. It is not a sufficient means for a real study of the permeability of the meningeal barrier to foreign substances circulating in the blood, nor a sufficient criterion to judge of the sufficiency of the meninges from the functional point of view.

Policlinico, Rome

38: 213-264 (May 15) 1931. Surgical Section

*Regeneration of Gallbladder. G. Balice.—p. 213.
Tuberculous Peritonitis with Concomitant or Consecutive Tuberculous Hernia: Two Cases. O. Cantelmo.—p. 228.
Alkali Reserve and Hydrogen Ion Concentration of Blood in Spinal Anesthesia with Tutocain. U. Fogliani.—p. 236.
*Diverticulitis. G. Gucci.—p. 244.
Spontaneous Torsion of Testis: Two Cases. A. Vitale.—p. 257.

Regeneration of Gallbladder.—Balice noted regeneration of the gallbladder in dogs following cholecystectomy, together with an ample resection of the cystic duct, the same as when the cystic duct was not resected. The regenerated gallbladder has a structure resembling that of the normal gallbladder. On the basis of recent researches, the gallbladder is only one of the many sites in the biliary tract where calculi may form. The gallbladder is, however, the only site where calculi grow large by reason of a predisposing anatomic condition. The author concludes that in calculosis of the gallbladder the operation of choice is cholecystotomy or cystendesis. Cystendesis is followed by abdominal drainage, on account of the microbic flora often existing in the gallbladder, even when it is sound or at least passes as such clinically.

Diverticulitis.—Gucci, taking as his point of departure a case revealed at the operating table, gives a survey of the clinical aspects of diverticulitis, considering more particularly the anatomic conditions of Meckel's diverticulum.

Riforma Medica, Naples

47: 669-708 (May 4) 1931

Subarachnoid Sensations in Frontal Region, Hippocratic Succussion and Phenomenon of Falling Drop After Insufflation of Encephalographic Air. E. von Thurzó and A. Piróth.—p. 671.

*Etiology and Pathogenesis of Pleuritis with Cholesterol-Containing Effusion. L. Bevere.—p. 675.

Strangulation of Loop of Small Intestine in Foramen of Winslow During Postoperative Course of Acute Appendicitis. S. Gabrielli. —p. 684.

Pleuritis with Cholesterol-Containing Effusion.—Bevere distinguishes two forms of pleuritis with cholesterol-containing effusion. Some effusions are rich in crystalline cholesterol alone, while in others, in addition to the crystalline cholesterol, there are amorphous cholesterol (for the most part esterified) and other lipinic fractions. In both forms the cholesterol is a local production. The cholesterol is not formed by synthesis but through liberation of combined substances. Under the action of proteolytic ferments, lipinic substances are liberated from lipoproteinous compounds, the exudate, the leukocytes and the serosa. From the cholesterolic esters, cholesterol is liberated by a cholesterol-esterolytic ferment. During the liberation process, the cholesterol is easily changed by precipitation, from the state of a suspended colloid into a crystalline state. In cholesterolic pleuritis, through thickening of the serosa and through vascular sclerosis, pleural permeability is greatly reduced, but to a much greater extent in pleuritis of the second type mentioned, in which all the less diffusible products (such as the lipinic substances) resulting from the process of scission remain in the pleural fluid. In pleuritis of the first type, the effusion contains only precipitated cholesterol, since the other lipins may be absorbed. The fundamental precondition for the development of cholesterolic pleuritis is that the effusion shall remain for a long time in the pleural cavity, being neither absorbed nor evacuated. In the case studied, the inoculation of the pleural fluid into a guinea-pig produced a form of tuberculosis similar to that produced by the filtrable form of tuberculous virus. There was no disturbance of cholesterol exchange. Insulin treatment did not produce a lytic action on the pleural cholesterol.

Rivista di Clinica Medica, Florence

32: 45-96 (Jan. 31) 1931

Cancerous Cirrhosis of Liver. G. Callerio.—p. 45.

*Complications Involving Nervous System and Organs of Sense, in Course of Leukemia. E. Vivoli.—p. 67.

Complications Involving Nervous System in Leukemia.—Vivoli reports that in fifty-three cases of leukemia, twenty-five of which were with hemorrhage (47 per cent), he encountered only one case of cerebral and meningeal hemorrhage (1.8 per cent), seven of retinal hemorrhage and two in which the clinical symptomatology awakened the suspicion of hemorrhage and leukemic infiltration of the internal ear. There was no case of medullary hemorrhage or of infiltration or degeneration of the peripheral nerves. From his examination of the cases studied and of many others cited by various authors, he is led to conclude that: 1. Cerebral and meningeal hemorrhage, associated with leukemia, is a rare event, occurring in not more than 2 per cent of the cases. It is found in persons aged from 15 to 30; sometimes, especially in the acute forms, in children only a few months of age, with a rapid course constituting the terminal fact. The hemorrhage may appear suddenly after the manner of a stroke and often at the beginning of the disease, before the diagnosis has been reached. 2. Retinal hemorrhage and so-called leukemic retinitis appear more frequently in myeloid leukemia (60 to 70 per cent of the cases) than in lymphatic leukemia (40 per cent), being associated sometimes with a sudden diminution of visual acuity, or the patient becomes aware of a black spot on his field of vision; many times, however, they do not give rise to subjective disturbance and are revealed only at an ophthalmologic examination. Retinal hemorrhages present themselves often simultaneously with cutaneous hemorrhages and hemorrhages of the internal organs, but many times, retinal hemorrhages (and especially leukemic retinitis) are encountered in cases in which no other hemorrhagic manifestations are discoverable. 3. Ringing in the ears, transitory dizziness and often a typical Ménière syndrome, and deafness (often progressive and total), are the ear complications encountered not infrequently in leukemia, but little importance is usually assigned to them. 4. Disturbances of the cranial and spinal nerves in leukemia are rather rare. They present themselves usually in the form of unilateral or bilateral paresis or paralysis of a single nerve, but sometimes of more than one nerve, and associated with disturbances of sensibility.

Archivos Argentinos de Pediatría, Buenos Aires

2: 145-215 (April) 1931. Partial Index

*Intraperitoneal Injections of Dextrose Solution in Dehydration of Infants. M. Acuña and S. I. Bettinotti.—p. 145.

Intraperitoneal Injections of Dextrose Solution in Dehydration of Infants.—Acuña and Bettinotti injected dextrose solution intraperitoneally in eighty-one infants with marked dehydration caused by nutritional disturbances originated as a rule by artificial alimentation. A summary of the clinical histories of the patients is given. The authors describe the technic and instruments used. They emphasize the importance of the detail that the solution to be used in the injection should be as freshly prepared as possible (within twenty-four hours previous to its use). In cases in which dehydration is the predominant symptom the administration of 200 or 250 cc. of dextrose solution intraperitoneally is followed by marked improvement in the infant's condition. The authors reach the following conclusions: The intraperitoneal route for the administration of medicaments to infants offers more advantages than any other route. The dehydrated organism of the infants may regain the organic fluids that it has lost more rapidly and safely when the liquids are given intraperitoneally. The peritoneum has perfect tolerance to the medication, even if large and repeated doses are given. The rapid absorption of fluids from the peritoneal cavity makes it possible to give the injection twice a day in those cases in which it seems advisable to do so.

Archivos Españoles de Pediatría, Madrid

15: 129-192 (March) 1931

*Disturbances of an Alimentary Origin During Early Infancy. J. G. Meneses.—p. 129.

Syphilis: Pediatric Aspects. A. R. Lozano.—p. 148.

Disturbances of an Alimentary Origin During Early Infancy.—Meneses states that enteritis in infants may occur in a pseudotyphoid, a mucous or a dysentery-like form. In pseudotyphoid enteritis, the diarrhea appears about two weeks after the evolution of a grave disease with predominance of nervous symptoms and high fever. The laboratory tests are of value in the differential diagnosis of pseudotyphoid enteritis and typhoid because in the former condition the diazo reaction and the Widal test give negative results and examination of the blood reveals leukocytosis. Mucous enteritis develops as a complication of influenzal involvement of the mucous membranes of the respiratory passages. This form includes, besides the benign and grave types, a third type, the so-called croupous type, of rapid evolution and fatal outcome, which most frequently attacks new-born infants. Dysenteriform enteritis, which is characterized by severe pain and tenesmus, includes the acute, intermediate and athreptic types. In the etiology of enteritis in infants an exogenous agent (bacteria or parasite) is involved. The proteolytic bacteria in the intestines of children with enteritis may be transmitted from child to child by the hands of nurses, by the use of nonsterilized linen, by toys, by the nipple of the wetnurse or by rectal use of thermometers, thus causing the epidemics of enteritis observed especially in community centers. The prognosis is uncertain because of the complications. A diet without albumins is advisable during the first two or three days but it should not be given longer than that because it is insufficient to meet the food requirements of the child. During the first six or twelve hours the patients should receive only large amounts of water or barley water; then they may receive light gruels made of corn flour or of wheat

or oat flours and a little later tasty soups carefully prepared. It is necessary to overcome the lack of desire of the patients to take the breast or foods by giving them tasty foods, recipes for some of which are given in detail. Indications for general treatment of the disease and peristalsis and for local treatment to alleviate the abdominal pain are also given in detail. The functioning of the heart should be watched closely and if it becomes slightly disturbed one should resort to analeptic medicines, or the infant may be given daily if necessary four or five teaspoonfuls of a 1 per cent solution of caffeine in water, or he may receive either two or three daily injections of 1 cc. of a 10 per cent solution of camphor in oil or two daily injections of dextrose solution at a dose of not more than 30 or 40 cc. It should be remembered that larger doses or rapidly injected doses of dextrose solution may cause necrosis of the cellular tissues.

Ars Médica, Barcelona

7: 105-136 (April) 1931. Partial Index

*Histopathologic Changes in Cerebral Tuberculosis. D. Ferrer.—p. 105.

Histopathologic Changes in Cerebral Tuberculosis.—Ferrer states that tuberculosis localized in the nerve centers causes especial alterations of the neuroglia and microglia cells, besides the characteristic alterations that occur in tuberculous lesions when localized elsewhere in the organism. The neuroglia cells pass through a phase of proliferation followed by disintegration of the proliferated cells. The astrocytes of the molecular zone in the normal cerebellum are protoplasmic astrocytes. In tuberculosis of the brain, the astrocytes are modified first by active proliferation and later by evolution to a fibrous type. Neuroglia protoplasmic astrocytes have been considered as young forms of neuroglia cells, while neuroglia fibrous astrocytes may represent adult phases of neuroglia cells; the transformation of the former into the later forms may be considered as a premature senility of neuroglia cells caused by the tuberculous process and representing the initial phase of disintegration of the neuroglia cells. Microglia cells also undergo a process of disintegration preceded by inflammatory alterations in their protoplasm. The author considers microglia cells as immigrant cells of mesodermal origin belonging to cells of the reticulo-endothelial system which, by passing through a phase of inversion in their type, acquire the character of macrophage cells, thus representing in cerebral inflammatory conditions an identical rôle to that played by macrophage cells that appear in inflammatory or tumor processes localized elsewhere in the organism, the origin, morphology, functions and staining properties of the two types of cells (macrophage cells and microglia cells) being identical. In tuberculosis of the nerve centers, argentophilic fibrils are formed, which may be considered as precollagen fibrils, because they are transformed into collagen under the action of microglia cells in activity, in the same manner in which precollagen fibrils elsewhere in the organism are transformed into collagen under an indirect action of the reticulo-endothelial cells. The author's studies comprise observations made in necropsies in seven cases of tuberculous meningo-encephalitis or of acute miliary tuberculosis. He gives a bibliography containing sixty-six references.

Archiv für Kinderheilkunde, Stuttgart

93: 161-240 (May 15) 1931

Immunbiology of Pneumonia. C. Erös, D. Györe and E. Kramár. —p. 161.

Roentgenologic Measurement of Sella Turcica in Nurslings. E. Schober.—p. 173.

Parathyroid Eosinophilia of Healthy and of Exudative Nurslings. G. Lenart and E. von Lederer.—p. 181.

*Tuberculosis of Cornea as Sequela of Primary Tuberculous Focus on Skin of Face. W. Courtin.—p. 188.

*Significance of Deciduous Teeth for Development of Permanent Teeth. C. Scheidt.—p. 192.

Significance of Electrocardiography in Early Diagnosis of Diphtheria Disturbances of Heart. P. von Kiss.—p. 198.

Tuberculosis of Cornea.—Courtin reports the clinical history of a nursling, aged 8 months. At the age of 4 months a primary tuberculosis of the skin had been observed below the right angle of the mouth. The tuberculous nature of the skin lesion was demonstrated by microscopic examination and by skin tests. It is also pointed out that the mother, who tended the infant during the first four weeks of life, had an open tuberculosis, and it is probable that the infant was infected during this time. From the primary focus on the mouth the tuberculosis spread to the cornea by way of a hand-borne infection and there caused a tuberculous ulceration. In the further course a hematogenic dissemination took place. This was followed by a tuberculous meningitis that ended fatally.

Significance of Deciduous Teeth for Development of Permanent Teeth.—Scheidt deplores that many parents give less attention and care to the teeth of the first dentition than to those of the second dentition in the belief that only the latter are really important. However, besides the great significance that properly functioning deciduous teeth have for the growing organism, they are also important for the development of the permanent teeth. Their presence until after the complete resorption of the roots is essential for the development of the jaws and of the permanent teeth. The deciduous teeth transmit the chewing pressure to the jaw bone. This functional stimulant activates the functional adaptation capacity of the bone and thus contributes to the gradual development of the internal bone structure as well as to the development of the outer form of the future jaw apparatus. By this stimulation the growth tendency is increased. The promotion of the growth of the jaws has of course also a favorable influence on the space development for the teeth of the second dentition. Moreover, by the pressure transmission the deciduous teeth exert a trophic stimulation on the tooth pulp of the underlying permanent teeth and the pressure produced by chewing with the deciduous teeth meets the opposing expansion pressure of the growing tooth pulp, enhances this expansion pressure and thus promotes the resorption of the tissues covering the growing tooth and of the root of the deciduous tooth. The author further discusses the rôle of the various groups of the deciduous teeth as place preservers. The deciduous incisor teeth are not significant as place preservers but are important in securing the proper mesiodistal position relation between the upper and the lower jar. The place preserving function of the deciduous molar teeth is considered by the author in regard to the three dimensions. The transversal place preservation of the deciduous molars is of minor significance. Of greater importance is the preservation of the proper height of the teeth, but of primary significance is the place preservation in the sagittal direction; that is, in regard to the length of the jaws. The author further discusses the anomalies that may develop in case of premature loss of the different deciduous teeth, and he directs especial attention to the development of the first permanent molars, which a layman sometimes mistakes for deciduous teeth and consequently not in need of special care. In the conclusion, he stresses that the cooperation of the pediatrician is essential in the care for the deciduous teeth.

Klinische Wochenschrift, Berlin

10: 1009-1056 (May 30) 1931

Intestinal Autointoxication. E. Becher.—p. 1009. C'td.

Antirachitic Action and Other Properties of Rootlets of Barley Grown Under Exclusion of Light. A. Schittenhelm and R. Eisler.—p. 1014.

Injury of Liver in Acute Porphyrinuria. T. L. Althausen.—p. 1016.

Method for Demonstration of Porphyrin in Urine. H. T. Schreus and C. Carrié.—p. 1017.

Cure of Genuine Lipoid Nephrosis in Course of Streptococcus Peritonitis. H. Seckel.—p. 1019.

*Influence of Ultraviolet Rays in Sunshine and Skyshine on Thyroids of Rabbits and Cattle. G. Rosenkranz.—p. 1022.

Action of Various Fractions of Adonis Vernalis on Frog Heart. O. Liermann and K. Lauer.—p. 1024.

Technic of Functional Test of Stomach. L. Dinkin and W. Wolff. —p. 1025.

Behavior of Diastolic Blood Pressure Following Physical Exertion and and Its Significance. D. Mateeff and C. Petroff.—p. 1027.

Etiology of Multiple Sclerosis. F. Georgi and Ö. Fischer.—p. 1030.

Influence of Ultraviolet Rays in Sunshine and Skyshine on Thyroids of Rabbits and Cattle.—On cattle (stable animals) and on rabbits that were kept in an ordinary hutch (dark), Rosenkranz observed histologic changes in the thyroids. There was a proliferation of the parenchyma, a reduction in the number of follicles and a reduced colloid content. In grazing cattle or in animals exposed to the sunlight these changes were not present; on the contrary, the thyroids of these animals were in the usual stage of rest, with equally large, well filled follicles and only a small amount of parenchyma. As cause of the changes in the stable animals, the author considers the deficiency in ultraviolet rays. Noteworthy is the fact that the changes are most marked in young animals. The author calls

attention to the observation that the milk of animals that graze on the sunny side of a valley is higher in fat content than that of the same animals grazing on the shadowy side of the same valley. Consequently the author suggests sufficient light exposure for cattle. He thinks that his observations corroborate Bernhard's opinion, who found that in mountain valleys at high altitudes the incidence of goiter is less on the sunny side than on the shadowy side, as the result of more exposure to light.

Medizinische Klinik, Berlin

27: 719-756 (May 15) 1931

Roentgen Treatment of Myoma of Uterus. H. Martius.—p. 719.
Tuberculosis and Pregnancy. H. Runge.—p. 723.
Production of Abortion Without Surgical Intervention. K. Abel—p. 727.
Manipulation to Facilitate Difficult Version in Occipital Presentation. E. Sachs.—p. 728.
Rheumatic Carditis in Pregnancy. H. May.—p. 729.
Leukorrhea in Pregnancy. P. Gornick.—p. 731.
*Dangerous Functional Uterine Hemorrhages and Their Treatment. W. Weibel.—p. 732.
Difficult Diagnosis of Unusual Postoperative Diseases of Breast. G. Gronwald.—p. 735.
New Cuff for Use in Production of Venous Stasis. E. Weidlinger. —p. 740.

Dangerous Functional Uterine Hemorrhages and Their Treatment.—Weibel limits his discussion to functional hemorrhages; that is, to those determined by the action of the ovaries. The primary cause, however, does not necessarily have to be in the ovaries. The author designates the menarche and the menopause as the periods during which serious hemorrhages of this type are most frequent. In the diagnosis of these hemorrhages the differentiation from such conditions as submucous myomas, retention of the placenta, malignant tumors and inflammatory changes in the genitalia are of primary significance. Pernicious anemia and thrombopenia may simulate symptoms that are similar to those of functional hemorrhages and for this reason a careful examination of the blood is essential. In regard to the treatment, it is stated that the conservative methods should be tried before the more radical interventions are resorted to. Styptics, hormone preparations, calcium, vitamins and iron are administered. Injections of gelatin, horse serum or sodium chloride solution have also proved helpful in some instances. Other physicians employ protein bodies or human blood, especially blood from pregnant women. After reporting the clinical histories of fourteen patients, the author discusses the more radical methods of treatment. He considers curettage as ineffective. Extirpation of the spleen can be done in cases of thrombopenic hemorrhages. One of the best therapeutic methods is blood transfusion. However, it cannot always prevent recurrences of the hemorrhages. Resection of the ovaries preserves the function of the uterus, but since its effectiveness is not certain the author does not recommend it. He further discusses extirpation of the uterus and roentgen irradiation. Roentgen treatment is advisable for women in the menopausal age, provided the hemorrhage is not too severe, so that the effect of the irradiation (from five to six weeks) can be awaited. In younger women, particularly when functional hemorrhages develop during adolescence, everything should be tried to preserve the uterus and the function of the ovaries.

Münchener medizinische Wochenschrift, Munich

78: 821-860 (May 15) 1931

Improvement of General Physical Condition of Persons Selected Inside a Pure Line. W. Cimbal and H. Schmalfuss.—p. 821.
*Systematic Reducing Treatment with Thyroxine. A. Hellfors.—p. 826.
Effect of Potassium Salts on Organism: Experimental Studies on Two Generations of Hogs. U. Duerst, B. Huguenin and C. Fischer. —p. 829.
*Clinical Studies on Antiallergic Therapy of Asthma, Eczema and Hay-Fever. T. Schreus and E. Willms.—p. 831.
Cholesteatoma: Methods for Chemical Demonstration and New Principles of Treatment. A. Rejtö.—p. 836.
Explanation of Paracusis Willisii. H. Diehl.—p. 837.
Development of Complications in Acute and Chronic Suppurations of Middle Ear. W. Brock.—p. 838. C'en.
Treatment of Ureteral Calculi by Intestinal Lavage. H. Goldmann. —p. 840.
Treatment of Constipation by Lubricants and Laxatives. E. Kaufmann. —p. 841.
History of Quinine. F. Johannessohn.—p. 843.

Systematic Reducing Treatment with Thyroxine.—Hellfors studied the effect of thyroxine on obesity only in those obese persons in whom the basal metabolism was considerably reduced, so that a limitation of the calory intake to 900 and even to 700 calories a day did not cause any reduction in weight. The thyroxine was given by mouth. The doses were gradually increased. As a result, the basal metabolism increased and the weight decreased. However, the carbohydrate metabolism and the circulation were not influenced. In regard to the mechanism of thyroxine treatment, the author states that he gained the impression that it acts indirectly by influencing the thyroid and the sympathetic nervous system, because the effect of the thyroxine becomes noticeable two or three days after the beginning of the medication and the action persists several days after the administration has ceased. Thyrotoxic symptoms became manifest only when unusually large quantities were given. The author points out that the first signs of a beginning thyrotoxicosis are usually of a psychic nature. The patients become dissatisfied and quarrelsome and, if these symptoms are disregarded, there gradually develop profuse sweats, finger tremor, eyelid fluttering and states of anxiety. It is therefore of greatest importance that the psychic behavior of the patient is carefully observed during thyroxine therapy. By such observations, overdosage and toxicosis can be avoided. In trying several thyroxine preparations the author also noted that the potency of the various brands varied considerably, and he shows that the dosage has to be adapted to the potency. In the second part of the article the author gives detailed case histories.

Antiallergic Treatment of Asthma, Eczema and Hay-Fever.—Schreus and Willms employed roentgen treatment in hay-fever, in asthma and in eczema. Tabular reports indicate that in hay-fever 120 r was applied through a 0.5 mm. copper filter to a nasal field measuring 6 by 8 cm.; in asthma, 200 r was applied through a 1 mm. copper filter to the mediastinum. In some cases of hay-fever the nose and the sternum were irradiated. In two thirds of the cases the results were favorable. The authors do not think that results were entirely due to psychologic influences, for psychic factors were excluded as much as possible. Allergy tests following the treatment revealed a weakened reaction. The authors reach the conclusion that the favorable results of the roentgen rays in these allergic conditions are partially or wholly the result of desensitization and thus the roentgen treatment represents an etiotropic therapy. The authors made their observations on a limited number of patients but they hope that further studies of this therapeutic method will throw more light on the action mechanism, and they recommend that this treatment be employed more extensively in the coming hay-fever period.

Zeitschrift für Kinderheilkunde, Berlin

51: 1-134 (May 18) 1931

Chondrodystrophia Calcificans Congenita as Abortive Form of Chondrodystrophy. C. Hünermann.—p. 1.
Influence of Certain Factors on Weight of the New-Born. A. O. Gerschenson.—p. 20.
Mongolism in Twins. H. Orel.—p. 31.
*Convalescent Serum Therapy in Acute Anterior Poliomyelitis. A. Lichtenstein.—p. 39.
Clinical Aspects of Phrenic Paralysis During Childhood. M. de Bruin. —p. 45.
*Endogenous, Perennial Rickets Refractory to Treatment with Vitamin D and Light. P. Bornscheuer.—p. 56.
Fat Deposits in Suprarenal Cortex and in Liver in Nurslings and Children. P. Rosenbaum.—p. 70.
Icterus Neonatorum Gravis. MacClure.—p. 86.
Babinski Reflex in Nurslings and Young Children. B. Bendix.—p. 93.
Great Toe Phenomenon and Grünfelder's Toe Reflex in Otitis Media and in Disorders in Region of Posterior Cranial Fossa. B. Grünfelder.—p. 99.
Clinical Hematology During Childhood. E. Stransky.—p. 111.
Experiences with Gerson-Herrmannsdorfer-Sauerbruch Diet in Various Forms of Tuberculosis During Childhood. O. Wiese.—p. 119.
Trophoneurotic Hypertrophy of One Extremity Caused by Calcified Gravitation Abscess. M. Marcus and H. Vollmer.—p. 127.
Absence of Scarlet Fever Eruption on Site Where Dick Test Shortly Before Had Given Positive Reaction, Also Following Vaccination with Scarlet Fever Toxoid. A. Stroe and D. Glasberg.—p. 132.

Convalescent Serum Therapy in Acute Anterior Poliomyelitis.—After reviewing the history of convalescent serum therapy, Lichtenstein reports his own experiences with this

treatment during the acute stage of anterior poliomyelitis. Mixed serum from three donors was administered intraspinally, intravenously and intramuscularly. For each injection from 10 to 20 cc. was used. In some instances the injections were repeated once in the same manner. The results obtained by the author are not encouraging. In sixty-nine patients who were treated during the paralytic stage the lethality was 21 per cent, which is about the same as when convalescent serum is not administered. Thirty-eight patients were treated during the preparalytic stage. In fifteen of these there developed paralytic symptoms, and in eight cases they persisted. One of the thirty-eight patients died of respiratory paralysis; the others recovered with or without paralysis. In twenty patients in whom serotherapy was not employed, the disease took about the same course. However, if the convalescent serum is administered during the preparalytic stage there is a possibility of a favorable influence, which is proved by the act'n of the convalescent serum in experimental poliomyelitis of apes. However, the treatment is effective only if it is administered during the earliest stages, during the first few days or hours. This shows the great significance of an early diagnosis, which is made possible by an early lumbar puncture.

Endogenous, Perennial Rickets Refractory to Treatment with Vitamin D and Light.—In a case of perennial rickets, Bornscheuer could not detect the usual causal factors of rickets. The customary antirachitic treatments, such as administration of vitamin D or of light, were without effect. Careful tests revealed that the rickets were not of renal origin. The author reviews reports of similar cases, which he found in the literature, and in which disturbances of the acid-base balance were detected. An examination of his patient in this respect revealed that an acidosis existed. Whereas other workers had obtained favorable results with the daily administration of 3 Gm. of sodium bicarbonate, the author prescribed a diet with a great excess of alkalis. The result was that the acidosis disappeared and the rickets improved. Abnormalities in the composition or in the elimination of the urine were not observed in this case. The improvement was noted on the following manifestations: 1. The metabolic investigations during the alkali period revealed a considerably increased retention of calcium and of phosphorus. 2. Following introduction of an alkali diet the formerly existing pains disappeared and there were no further fractures of ribs. 3. The roentgenograms of the hand showed clearly a zone of calcification. 4. The growth of the child improved during the alkali period.

Zeitschrift für Tuberkulose, Leipzig

60: 353-482 (May) 1931

Workshop Settlement for Unlimited Treatment of Patients with Chronic Tuberculosis. E. Brieger.—p. 353.
Course of Treatment During Graded Work in Workshop Settlement. G. Paasch.—p. 365.
Technic and Results of Examination of Persons Living with Tuberculous Patients in Cities. W. Landau.—p. 370.
Examination of Persons Living with Tuberculous Patients in Country Districts. Herold.—p. 383.
Health Board and Examination of Persons Living with Tuberculous Patients. B. Rodewald.—p. 388.
Collapse Therapy of Circumscribed Portions of Lung. H. Hauke. —p. 397.
*Present Status of Pulmonary Collapse Therapy During Childhood. O. Wiese.—p. 406.
Clinical Contributions to Thoracoplasty and Cauterization. A. Tegtmeier.—p. 419.
*Activations of Collapsed Lung During Pneumothorax Therapy. H. Adler.—p. 434.
Bilateral Tuberculous Infiltrate of Edge of Lobe with Bilateral Interlobar Empyema. Steinmeyer.—p. 441.

Pulmonary Collapse Therapy During Childhood.—Wiese states that the unfavorable results obtained with the conservative therapeutic methods in open tuberculosis in children were the cause for resorting to collapse therapy. Cases of pulmonary tuberculosis that are in need of collapse therapy usually develop after the tenth year. The author reports his observations with the various forms of collapse therapy. He discusses unilateral pneumothorax and emphasizes that positive pressure values are to be avoided since a too intense pressure may cause complications. Indications for pneumothorax treatment are essentially the same as in adults. The duration of the pneumothorax treatment varies between six months and three years. The author further discusses bilateral collapse therapy, namely, bilateral pneumothorax, and the combination of pneumothorax with phrenic exeresis or with extrapleural plombierung. His experiences with oleothorax as a supplementary treatment are limited, but the results he obtained were satisfactory. Thoracoscopy and endothoracic cauterization were also employed. However, this intervention is not without danger, and in children it requires special skill on account of the smaller space and the greater restlessness. In regard to phrenic exeresis the author refers to one of his former articles. Here he stresses that, before resorting to phrenic exeresis, pneumothorax treatment should always be tried. Thoracoplasty is generally not done before the fourteenth year. In exceptional cases, it might be tried before that age, but it is, of course, done only in the late forms of tuberculosis. Extrapleural plombierung was found especially helpful in the treatment of bronchiestasis. Phrenic exeresis and thoracoplasty are contraindicated in bronchiectasis but pneumothorax, oleothorax or intrapulmonary tamponade are sometimes helpful. Extrapleural plombierung, however, gives the best results in bronchiectasis. In chronic pneumonia, pneumothorax treatment was tried occasionally, but in one case a pulmonary abscess developed. On the basis of his experiences the author concludes that, in the severe forms of pulmonary tuberculosis in children, collapse therapy gives better results than any other therapeutic method.

Activations of Collapsed Lung During Pneumothorax Therapy.—Adler observed that in the course of pneumothorax treatment there is sometimes an activation of the tuberculous process in the collapsed lung, usually in the form of pericavernous infiltration, which, in the course of the further treatment, either retrogresses or leads to further destruction of pulmonary tissues, with enlargement of the caverns. The symptoms of these activations are illustrated in case reports. They generally are: subfebrile temperatures, rarely higher fevers, usually a marked increase in the amount of sputum, fatigue, lack of appetite, increase of the sedimentation speed and especially reappearance of bacilli in the already negative sputum. The pneumothorax exudates, on the other hand, usually cause a sudden onset of higher fever temperatures. However, an exudate with an acute onset is sometimes preceded by an infiltration within the collapsed lung. Whether the infiltrative exacerbations within the collapsed lung are caused by the pneumothorax or by the evolutionary tendency of the disease process is unknown. It is probable that the two factors work together. A relationship is proved by their concurrence with the pneumothorax fillings. But even if there was only the factor of concurrence, it would be noteworthy that the pneumothorax could not prevent them. A sure diagnosis of the fresh infiltrate in the collapsed lung is possible only by means of roentgenoscopy. But in this method there are likewise difficulties, for it must be considered that not every homogeneous shadow in the collapsed lung is caused by infiltration. Atelectasis causes shadows in the roentgenogram, but atelectasis is most marked at the time of the completion of the collapse, and therefore if shadows develop later in the course of the treatment, around the cavern, they may be considered as being caused by inflammatory changes. Constant roentgen control is absolutely essential in pneumothorax treatment. In these cases, transillumination by roentgen rays is better than roentgenography, since it permits turning, examination in all diameters, and the use of softer rays. If activations are detected, the amount of gas should be reduced or the treatment should be terminated. The author stresses that pneumothorax treatment is not as indifferent a matter as many seem to think. Among the failures of this therapy there are always a certain number that are caused not so much by the disease as by the treatment. By the mechanical compression of the disease focus or of the cavern, as well as by the opening of the pleural cavity, bacterial toxins or inflammatory agents are forced into the surrounding pulmonary portions or into distant regions and here produce inflammatory changes in tissues that previously have been healthy. Although the cases in which activation is produced by pneumothorax are not frequent, the author emphasizes that many of the factors which at present are considered indications for this treatment are in need of revision.

Zentralblatt für Chirurgie, Leipzig

58: 1297-1360 (May 23) 1931

Late Rupture of Tendon of Extensor Pollicis Longus Following Fracture of Radius. W. V. Simon.—p. 1298.
Foreign Body Pseudotuberculosis of Omentum Caused by Oxyuris. F. Schneider.—p. 1301.
*Knowledge on Etiology and Pathology of Varicose Veins Necessary for Obliteration Treatment. K. Holzapfel.—p. 1304.
Attempt at Nephropexy by Means of Pedicled Cutis-Subcutis Flap According to N. N. Sokolow. J. M. Pawlonsky.—p. 1306.
Appendix Invagination. P. Esau.—p. 1312.
Two Stage Traumatic Rupture of Spleen. R. Bumm.—p. 1314.
Relation of Articular Space in Knees to One Another and to Form of Eminentia Intercondyloidea. C. Bauer.—p. 1317.
Technic of Roentgen Examination of Lumbosacral Angle. F. Stück. —p. 1320.

Knowledge on Etiology and Pathology of Varicose Veins Necessary for Obliteration Treatment.—Holzapfel first discusses the various theories of the etiology of varicose veins. Some assume a mechanical mode of development, others stress injuries of the vascular walls by enterogenous or bacterial toxins as the chief causal factor, others again metabolic disturbances, hereditary predisposition or endocrine disorders. It is probable that varicose veins have no uniform cause but that in different cases there are different etiologic factors. However, a predisposition is plainly noticeable, and it is probable that overtaxing of the legs, pregnancy, or infectious diseases are conducive to the manifestations and exacerbation of the varicose condition. The author then describes the three main types of varicose veins, namely: (1) phlebectasias, which are the diffuse, symmetrical dilatations; (2) varicosities, which are diffuse, irregular dilatations, and are usually combined with circumscribed ampullar sacculations; (3) venous angiomas, which are localized phlebectasias and varicosities which often assume tumor character. Of greatest significance for the obliteration treatment is a knowledge of the circulatory conditions. Who attempts obliteration treatment should know that not every dilated vein is a varicose vein, but only such a vein in which the reverse circulation exists, which leads the blood away from the heart, centrifugal, like the arterial blood stream. In every completely developed varicose vein there is, when the body is in the upright posture, a "private circulation," in that the blood from the femoral vein falls from above into the saphenous vein, and below empties again into the femoral system. Thus it is brought to the periphery without passing the lungs and without absorbing oxygen. Observations and tests with the hemodromometer have revealed that when the patient is in the horizontal position the blood of the degenerated saphenous vein still returns to the heart. However, as soon as the person assumes the upright posture the blood stream becomes reversed.

Vrachebnoe Delo, Kharkov

13: 1641-1744 (Dec. 31) 1930

*Aphonic Heart Conditions. V. J. Glintchikov and N. N. Loktionova. —p. 1645.
*Heart Murmurs Without Valvular Lesions: Two Hundred Cases. J. J. Lokshin.—p. 1655.
*Venous Pressure as Method for Determination of Functional Capacity of Cardiovascular System. A. F. Grosev and V. P. Khorujenko. —p. 1660.
Diagnosis and Pathology of Typhus. J. R. Braude.—p. 1667.
*Chemical Asymmetry as Basis of Visceral Asymmetry. S. D. Kaminsky.—p. 1672.
*Acidity of Vaginal Secretion in the New-Born: Method of Determination. G. L. Davydov.—p. 1681.
*Serum Disease: Its Influence on Diphtheria Patients with Regard to Contraction of Scarlet Fever: Fourteen Cases. A. B. Volovik. —p. 1685.
*Pellagra: Forty-Three Cases. G. N. Kleinman.—p. 1689.

Aphonic Heart Conditions.—Glintchikov and Loktionova made a comprehensive review of the literature on the subject. Their conclusions are as follows: The conditions that prevent murmurs at the orifices of the heart are well known at present. They are caused by the (1) condition of the affected valve (deformation, size of opening); (2) contractility of the heart muscle and propulsive power of the heart chambers; (3) changes in the functional capacity of the heart, particularly changes in its rhythm, and (4) speed of blood current in the normal or opposite direction, as in insufficiency of the aortic valves. Among the aphonic conditions of the heart that are designated by the authors as true aphonic disorders they recognize two groups: (1) those that become aphonic from typical heart disorders that were accompanied by murmurs and (2) those in which there are no murmurs from the beginning. Temporary aphonia is seen mostly in aortic insufficiency and mitral stenosis as well as in endocarditis, in obstinate heart disorders with decompensation and in the so-called weak heart. Infections as typhoid, typhus and influenza also play a part in the temporary aphonic heart conditions. Finally, aphonic heart disorders may occur as a result of acute pulmonary, intestinal or uterine hemorrhage. One may add many other causes, as physical overstrain, psychic traumas, dietetic errors and functional disorders in various organs as, for example, kidney troubles. The true aphonic heart conditions occur much more rarely than the transitory ones. In cases in which true aphonic conditions were brought on by temporary ones that were accompanied by murmurs, such murmurs disappeared in a short time. The persistent aphonic heart conditions that develop from typical ones that were accompanied by murmurs occur also in the following instances: (1) when during the pathologic processes in the valves, the latter become completely destroyed, (2) in the presence of combined pathologic conditions in the same valve, and (3) in the presence of combined pathologic conditions in different valves (aortic and mitral). There is also a third group of aphonic heart conditions about the origin of which nothing definite is yet know. For diagnostic purposes the authors suggest the following measures: The observation of the so-called local elevation of the chest wall in the region of the apex beat (French "choc en dôme"), the presence of tones over the capillaries which are so characteristic for aortic insufficiency, the presence of double murmurs of Duroziez over the femoral arteries, the height of the blood pressure (high maximal and low minimal, and high pulse pressure) and, finally, the sphygmograms, phlebograms, electrocardiograms and tonograms that are so important in arriving at the correct diagnosis.

Heart Murmurs.—Lokshin studied heart conditions in 200 patients. His conclusions are as follows: Murmurs without valvular lesions occur in from 30 to 40 per cent of all healthy persons; the murmurs are not identical; some are caused by increased blood current and some are caused by asthenia of the papillary muscles. The majority, though, are caused by the so-called vibration of the papillary muscles with the consequent incomplete valve closure. In from 60 to 70 per cent of the patients the murmurs appear only when the patient is in the recumbent position, because in this position there is an increase in the tonus of the vagus; they can be partly explained also by an increase in the speed of the blood current as well as by a retardation of the pulse. The vibration of the papillary muscles appears only with their hypertension; it never occurs in asthenia. The absence of cardiac dilatation is also possible only in hypertension of the muscles.

Venous Pressure.—In their attempt to use the venous pressure as a method of determination of the functional capacity of the cardiovascular system, Grosev and Khorujenko reached the following conclusions: It seems that the venous as well as the whole hemodynamic system is characterized by its power to correspond with the pressure on which it depends at a given moment. This peculiarity of the venous system might be called venous stability; it is probably due to that group of hemodynamic phenomena that have been named phenomena of vasomotor stability. The venous stability is the best evidence of the autonomy of the venous system as a branch of the peripheral heart in the harmonious chain of the hemodynamic system. The authors disagree with the hypothesis of Müller and emphasize the fact that the reflex is transmitted not only from the heart itself but also from various regions of the body; also by the fact that in pathologic conditions the stability of the arteriovenous pressure is not caused by the disturbances of these reflexes, but, on the contrary, by their pathologic exaggeration. Thus, the determination of the functional power of the cardiovascular system, by the venous pressure, adds valuable data to the clinical picture of decompensation and other cardiovascular disorders. For better results the readings of the venous pressure in normal states should be combined with that of a patient in a condition of strain, because the latter readings

are more valuable. In cardiac compensation, as well as in all disorders that influence the cardiovascular system, this method is not of much value and its value is irrational. It is of great importance in the study of some peculiarities of the venous system if one considers this system as an autonomic branch of the peripheral heart.

Chemical Asymmetry.—On the basis of fifteen cases studied, Kaminsky draws the following conclusions: 1. The visceral asymmetry of both upper extremities observed in patients with syringomyelia and verified by clinical and pharmacologic analysis is usually accompanied by a marked picture of chemical asymmetry. This clinical asymmetry is determined by the electrolytic dissociation and by the sugar and fat contents of the blood of the upper extremities studied; it is also in close interrelation with the visceral asymmetry. Electrolytic dissociation consists in the increase of calcium on the side of increased function of the sympathetic nervous system and in diminution of the potassium-calcium coefficient, which serves as an indicator in electrolytic dissociation. 2. The sugar and fat contents of the blood were diminished on the side of the increased function of the sympathetic nervous system. 3. The chemical changes in the blood of the upper extremity in a case of autonomic clinical asymmetry are identical with those that are found in experimentally produced autonomic asymmetry. 4. By interpreting the nature of the interrelated clinical and chemical asymmetry one can determine the regulatory action of the autonomic nervous system, particularly of the sympathetic system, on the chemism of the metabolism of the peripheral tissue. Hence, any pathologic condition in the sympathetic nervous system may cause the chemical changes observed. Therefore, the author's conclusion is as follows: The sympathetic nervous system, in addition to the rest of its functions, has also a regulatory rôle in the nutritional processes of the tissues.

Acidity of Vaginal Secretion.—On the basis of twenty-nine investigations concerning the degree of acidity of vaginal secretion in the new-born, Davydov draws the following conclusions: 1. The reaction of vaginal secretion in the new-born from the date of birth up to the end of the first week is markedly acid. On an average the $p_H = 4$; i. e., it corresponds to the average height of acidity in adult women. 2. This biologic phenomenon explains the extreme rarity of gonorrheal vulvitis or vaginitis in the new-born in comparison with cases of conjunctivitis, which were so numerous before the present preventive administration of solution of silver nitrate. 3. The electrometric method of determination of the hydrogen ion concentration in a given medium is at present the most accurate. 4. Schade's electrode, modified recently by Girgolav and Zhukov, is indispensable in the examination of the minute quantities of vaginal secretion obtained from the new-born. 5. In a large percentage of cases observed, the vaginal secretion was extremely low. 6. The investigations reported are not of such value that there should be drawn any interrelation between the degree of acidity of vaginal secretion in the new-born and their general development.

Serum Disease.—Among forty children with diphtheria, Volovik observed fourteen who, being admitted to a contagious hospital for antidiphtheria therapy, contracted scarlet fever because they came in contact with scarlatinal patients. The author's conclusions are as follows: 1. Serum sickness, it seems, may play a not unimportant part in the breaking out of scarlatinal infection in diphtheria wards. 2. The superimposition of scarlet fever on serum disease occurred usually between the second and the seventh day after the serum eruption, mostly on the fourth or fifth day; i. e., in periods, coincident with the regular incubation period in scarlet fever. 3. Lowered bodily resistance provoked by serum sickness, might favor the infection with scarlet fever only if there is some degree of sensitization to it (positive Dick test). The constitution of the patient might also play some part in his susceptibility to scarlet fever. 4. Large doses of antiscarlatinal horse serum are of value in the passive immunization against scarlet fever of patients in diphtheria wards. Such immunization probably neutralizes the unfavorable effects of serum disease, which brings about a lowering of the resistance of the organism to scarlet fever.

Pellagra: Forty-Three Cases.—Kleinman observed forty-three persons with pellagra. All of them belonged to the poorest group in a rural community in which the main constituent of the daily food intake is corn bread. Meat is eaten only on the principal holidays. Milk or wine did not have a place in their regimen. The author states that there is no doubt about the interrelation between pellagra and the permanent use of corn as the main food. His conclusions are as follows: The exclusive use of corn, in a condition of a definite sensitization to it, causes physiologic disorders between the central nervous system, the sympathetic nervous system and the glands of internal secretion. The final result is pellagra. The hypersensibility to corn in the patients observed was proved by the fact that, after they were hospitalized for a while, the symptoms rapidly disappeared, despite the fact that that ration in the hospital diet was not a high one. Their rapid recovery with the disappearance of the gastro-intestinal and neuropsychic disorders, as well as of the severe ataxia noted in some cases, was due to the removal of the toxic cause of the ailment. The atypical localization of the endemic erythema on parts of the body protected from the sun's rays (vulva, anus, genitocrural folds, shoulder and back) demonstrates that a pellagrin, in his fight against factors oppressing him, develops periodic fluctuations, particularly in his endocrino-autonomic apparatus. This phenomenon fully interprets the eruption of pellagrous exanthems and enanthemas with reference to the various seasons of the year.

Ugeskrift for Læger, Copenhagen

93: 467-494 (April 30) 1931

Accident Insurance Cases: XVIII. Prostheses and Bandages. P. Guildal.—p. 467.
*Results of Radical Operation on Middle Ear: One Hundred and Ninety-Eight Cases. J. Jessen.—p. 470.
Operation for Exophthalmic Goiter, with Especial Regard to Preoperative Iodine Treatment. J. Fabricius-Møller.—p. 474.
*Two Brothers with Kienböck's Disease. A. Ringsted.—p. 480.
*Two Cases of Actinomycosis. A. Rischel.—p. 484.

Results of Radical Operation on Middle Ear.—From 1923 to 1926, Jessen made after-examinations in 198 patients, including 57 children, following radical operation on the middle ear; 130 patients were operated on in the acute stage. The subjective results were good in 66 per cent, fair in 24 per cent and poor in 10 per cent. The intervention in the children, done only on vital indication, contributed 25 per cent of the good results, 27 per cent of the fair, and 48 per cent of the poor. The surgical results in the seventy-one persons operated on according to Bárány were good in 58 per cent, fair in 39 per cent and poor in 3 per cent, and in the remaining 134 cases good in 32 per cent, fair in 55 per cent and poor in 3 per cent. The functional results, examined in 158 cases, showed loss of hearing in 8 per cent, aggravation in 46 per cent, no change in 13 per cent and improvement in 33 per cent. Of the sixty-five patients treated according to Bárány, the condition was improved in 48 per cent, unchanged in 26 per cent and aggravated in 26 per cent. Thorough medical examination in 100 of the 198 patients pointed to the importance of the general condition in prognosis.

Two Brothers with Bilateral Kienböck's Disease.—In one of Ringsted's cases, unilateral changes in the semilunar bone were established by roentgen examination before clinical symptoms appeared. On the basis of his fourteen cases, with two bilateral cases, he thinks that chronic osteitis of the semilunar bone may be more common than was formerly supposed. The etiology of the condition, he states, is still unknown, and trauma as the probable cause is hardly possible. The cases reported indicate that constitutional relations play a part in the origin of Kienböck's disease.

Two Cases of Actinomycosis.—In Rischel's first case, in which diagnosis was made only after repeated examinations, the condition was localized in the soft parts of the forearm, without signs of abnormality elsewhere. In the second case (thoracopulmonary actinomycosis in a child) there was an extensive involvement of the lung without especial clinical symptoms. Roentgen treatment and the administration of potassium iodide were effective in both cases.